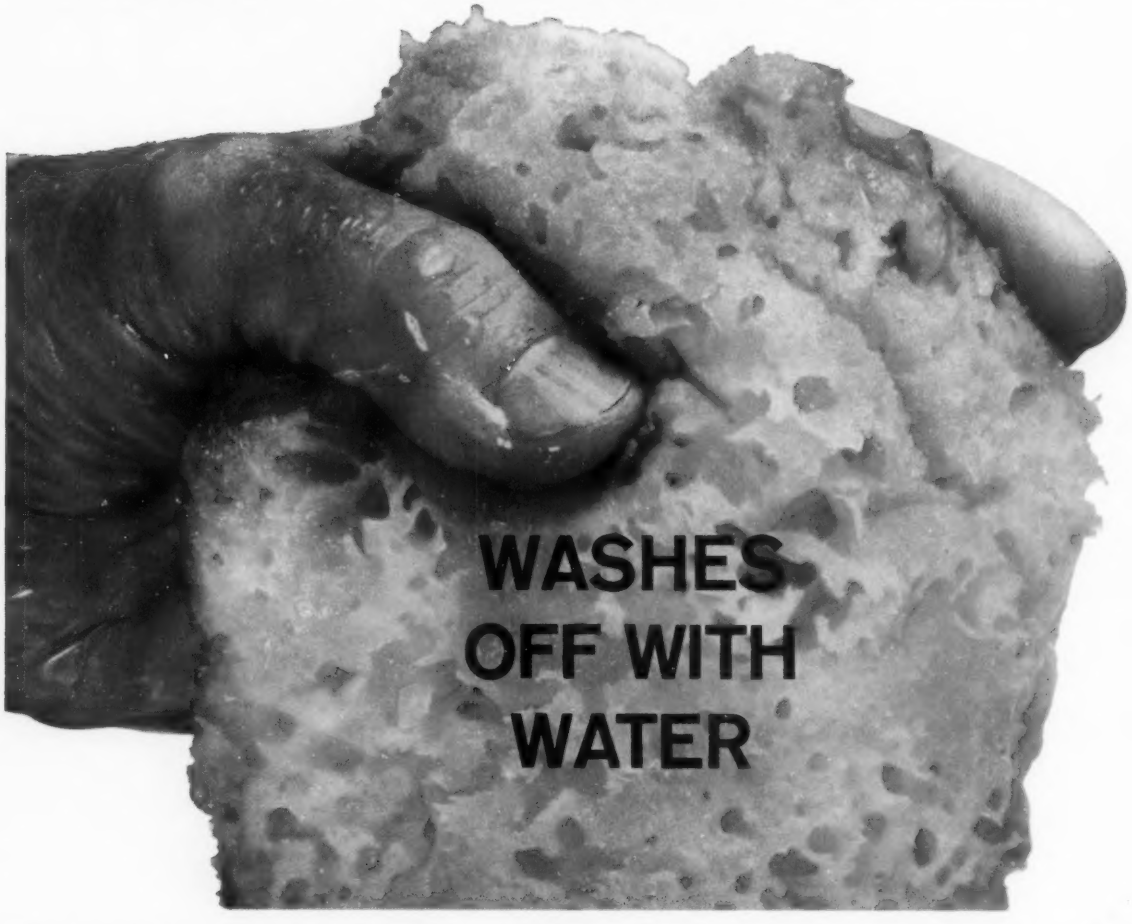
MODERN PACKAGING

GREAT PACKAGING DISCOVERIES: *Process printing of cellophane*

Background for Packaging / *Western States Section* / *Complete contents, pp. 2-3* | **JULY 1960**

Easi-Clean RESIN ADHESIVE



RUNS A WEEK WITHOUT CLEAN-UP

EASI-CLEAN is faster setting, stronger gripping! Runs without trouble. Cleans-up without trouble. An easy-to-use resin adhesive for everything from case and carton sealing to carton forming, double package making and labeling.

EASI-CLEAN doesn't build-up on rollers. Forms no skins in the glue pot. Permits maximum machine speeds. Increases adhesive mileage. Eliminates pop-ups and sifters. Avoids scrap and product losses.

EASI-CLEAN can be used throughout your plant. We'd be glad to arrange a trial run. Write or call your nearest National office.

National
ADHESIVES
NATIONAL STARCH and CHEMICAL CORPORATION

750 Third Avenue, New York 17 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11

GOODYEAR

ANOTHER BIG CHAIN DISCOVERS:

There's Nothing Finer THAN A PLIOFILM LINER

...for preground, prepackaged coffee at minimum cost

In all Daitch Shopwell outlets, too, coffee is now marketed the modern efficient way—preground and prepackaged in bags lined with PLIOFILM.

No more traffic jams around the old-fashioned grinder. No wasted space. No machine maintenance. And the readily heat-sealed PLIOFILM liner protects both flavor and aroma, keeps preground coffee bean-fresh.

Get the whole story on this better, thriftier way to merchandise coffee. See your Goodyear Packaging Films Engineer or write: Goodyear, Packaging Films Dept. S-6418 Akron 16, Ohio.

Good coffee stays good in

Pliofilm

by GOODYEAR

Pliofilm, a rubber hydrochloride—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

July 1960 VOL. 33 NO. 11

IN THIS ISSUE

MODERN PACKAGING, Executive and Editorial Offices, 575 Madison Ave., New York 22, N.Y. Phone PLaza 9-2710

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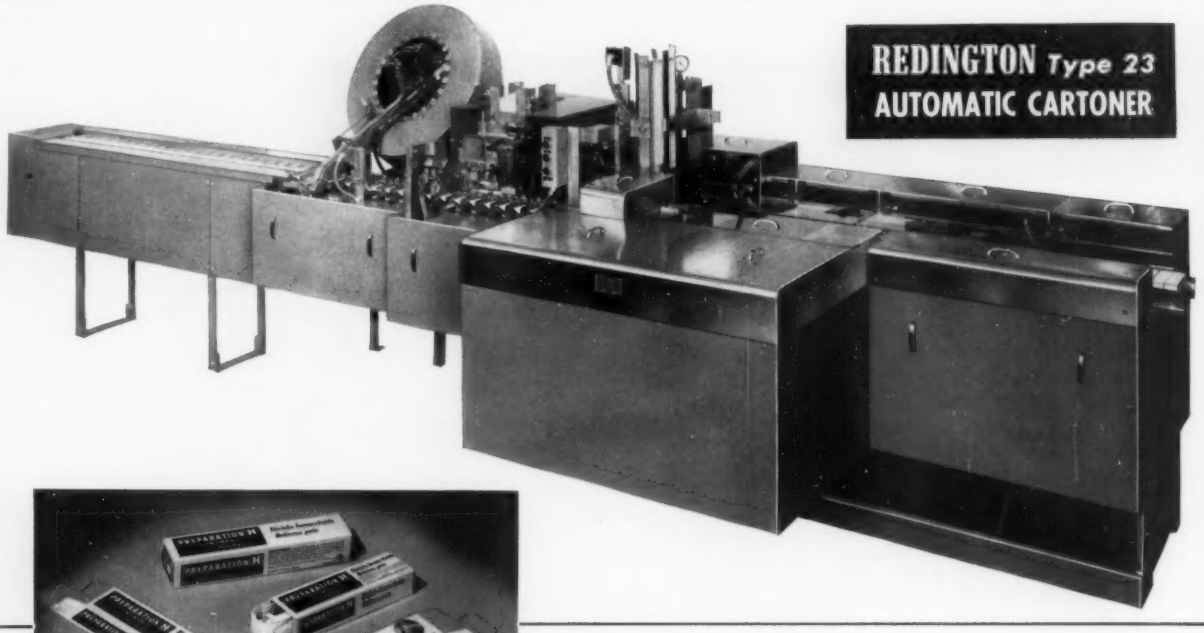


AUTOMATIC CARTONING CUTS LABOR COSTS...

Once tubes have been placed in conveyor pockets, the REDINGTON Type 23 handles all the rest of the packaging job automatically. An unfolded leaflet is fed from the magazine, folded three times parallel to the long dimension, then placed in the conveyor pocket over the top of the filled tube as it reaches the loading point. For "Preparation H," a special mechanism also feeds one pile pipe to each conveyor pocket.

Next, the REDINGTON feeds and forms a carton from the flat stack in the magazine, and inserts the whole assembly from the conveyor pocket; then it tucks in the end flaps to close the carton, and discharges it to packing table or conveyor.

It's highly important that no package of "Preparation H" reach the market without its accompanying pile pipe. A special REDINGTON device stops the machine should a pipe fail to feed to a unit assembly. Another detector prevents feeding a carton to any empty conveyor pocket.

SEND FOR THIS 44-PAGE ILLUSTRATED CATALOG

which describes many interesting machines for cartoning, wrapping and special packaging all kinds of products in many fields.

Different products... different sizes... different enclosures... all automatically cartoned with *one* REDINGTON!

Many lines—perhaps *your* line—include different package sizes, and different groups of articles which must be cartoned. But this doesn't mean that you can't have the production-boosting, cost-reducing advantages of *fully automatic cartoning*—not if you have the right REDINGTON working for you.

The machine illustrated is an excellent example of what we mean. Whitehall Laboratories Inc., Elkhart, Indiana, require large volume production on two different cartoned products. On one line, their "Preparation H" ointment is cartoned in 1 oz. and 2 oz. sizes, "Infra Rub" in a 1⅓ oz. package. Both products are packaged in tubes, accompanied by leaflets; "Preparation H" cartons also include plastic pile pipes.

This means plenty of variables to contend with—yet Whitehall's REDINGTON Type 23 permits *fully automatic cartoning* of all items on this one machine, with production speeds up to 150 packages a minute! What's more, changeover of the machine for the different carton sizes or from one item to the other is simple, and requires minimum downtime.

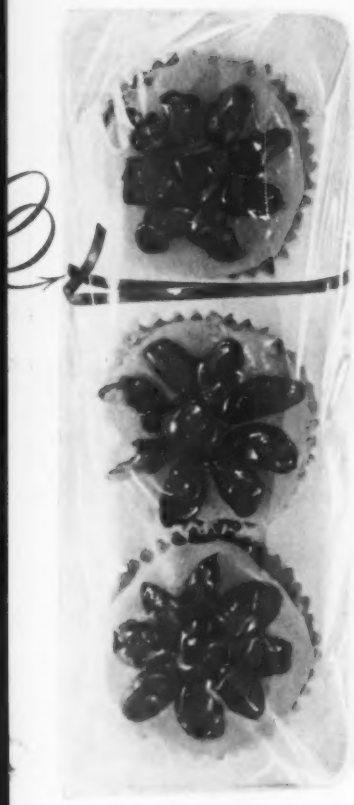
Whatever *you* package in cartons—and whatever variations *your* line includes—it will pay you to get the facts about the advantages REDINGTON Automatic Cartoning offers you in terms of steady, volume production with a minimum of direct labor cost. For more than six decades, REDINGTONS have been giving profitable, high-efficiency performance to packagers—both large and small—in many lines. They are built to exacting specifications, with never a compromise on materials or workmanship, to assure a long productive life even under hard-use conditions.

Why not call in experienced REDINGTON engineers *now*, to discuss how you can get better, more profitable package production?

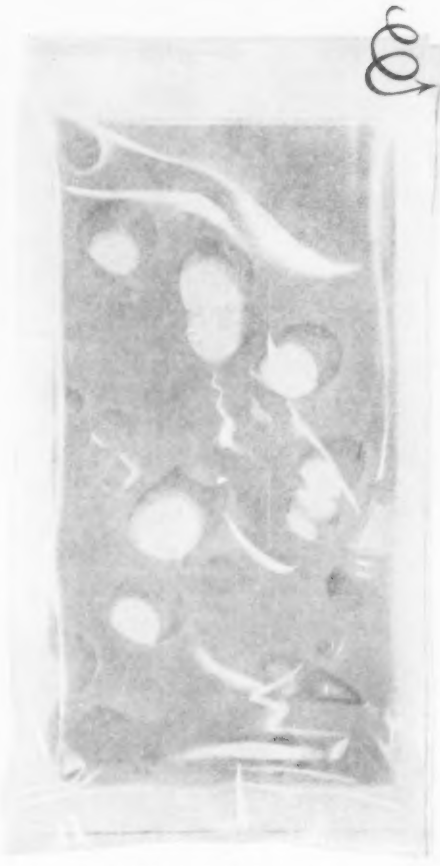
F. B. REDINGTON CO.
3010 ST. CHARLES ROAD, BELLWOOD, ILLINOIS
Chicago Phone: AUstin 7-4200

Verona, New Jersey . . CEnter 9-4608

REDINGTON
AUTOMATIC MACHINES for CARTONING
WRAPPING • SPECIAL PACKAGING



Zip-Tape



Zip-String

Zip-Strip

unpackaging is important too!

DOBECKMUN

Nothing so antagonizes a customer as a hard-to-open package. Modern films, with their high abrasion resistance and tensile strength, can be brutes. Dobeckmun Zip-Tape®, Zip-String and Zip-Strip can make any kind of a package a cinch to open, while not yielding one inch in either appearance or shelf life. Dobeckmun has a quick opening device for nearly everything that comes in a flexible package—ZIP-TAPE for cellophane and foil—ZIP-STRING recommended for the toughest laminations—ZIP-STRIP for products not affected by moisture loss or gain...a serrated edge to polyethylene bags and overwraps. For full information about this and other aspects of Packages for Performance, write THE DOBECKMUN COMPANY, A Division of the Dow Chemical Company, Cleveland 1, Ohio • Berkeley 10, California • Offices in most principal cities.

SEAL-ONS

CELONS®

BY THATCHER

KEEP PURE FOODS PURE

NO SAMPLING, NO SNIFFING

YOUR CAP STAYS ON

SPOTLIGHT YOUR SLOGAN

WHERE TO USE . . . HOW TO USE

YOUR BRAND NAME — HERE

LEAKAGE IS IMPOSSIBLE

THE COLOR SAYS, "LOOK AT ME"

OIL DISCOVERY. . . Thatcher's new *vinyl* tube for light machine oil. Made for John Oster Mfg. Co., and designed by Paket Corp., our tidy container can't get twisted or dented—feels pleasant to the hand — permits pinpoint application of oil, thanks to the slender tip and fine orefice. Looking for new ideas in tubes? Write our Plastic Container Division.

RIGHT ON TOP . . . keep your lines on the move and your products safe with our new developments in molded closures. Thatcher caps are made to tight tolerances . . . come in a glory of colors and metallics . . . perform with efficiency. Tell us your size and shape requirements—we can serve you fast. And we're ready to create special patterns to meet your special needs.

WHAT'S BREWING IN NEW YORK? . . . Lots of satisfying beers, for one thing — merchandised in well-designed, smartly-packaged bottles. Thatcher supplies bottles by the millions to metropolitan brewers. Quality has to be high; uniformity is essential. We also offer our customers fast, nimble service and the facilities of our designer specialists. Here's how!

Our pace-setting Celon seal guards your product and your good name. A fraction of a cent never bought more.

Send us your bottle. We'll show you what Celons can do for you, too. (No charge, of course).

Thatcher

THATCHER GLASS MANUFACTURING CO., INC.

375 PARK AVENUE, NEW YORK 22, N. Y.

CELON DIVISION
Muscatine, Iowa

McKEE DIVISION
Jeanette, Pennsylvania

PLASTIC CONTAINER DIVISION
Nashua, New Hampshire

Crown
Meritseal caps

TASK-DESIGNED

for production ease and eye-appeal

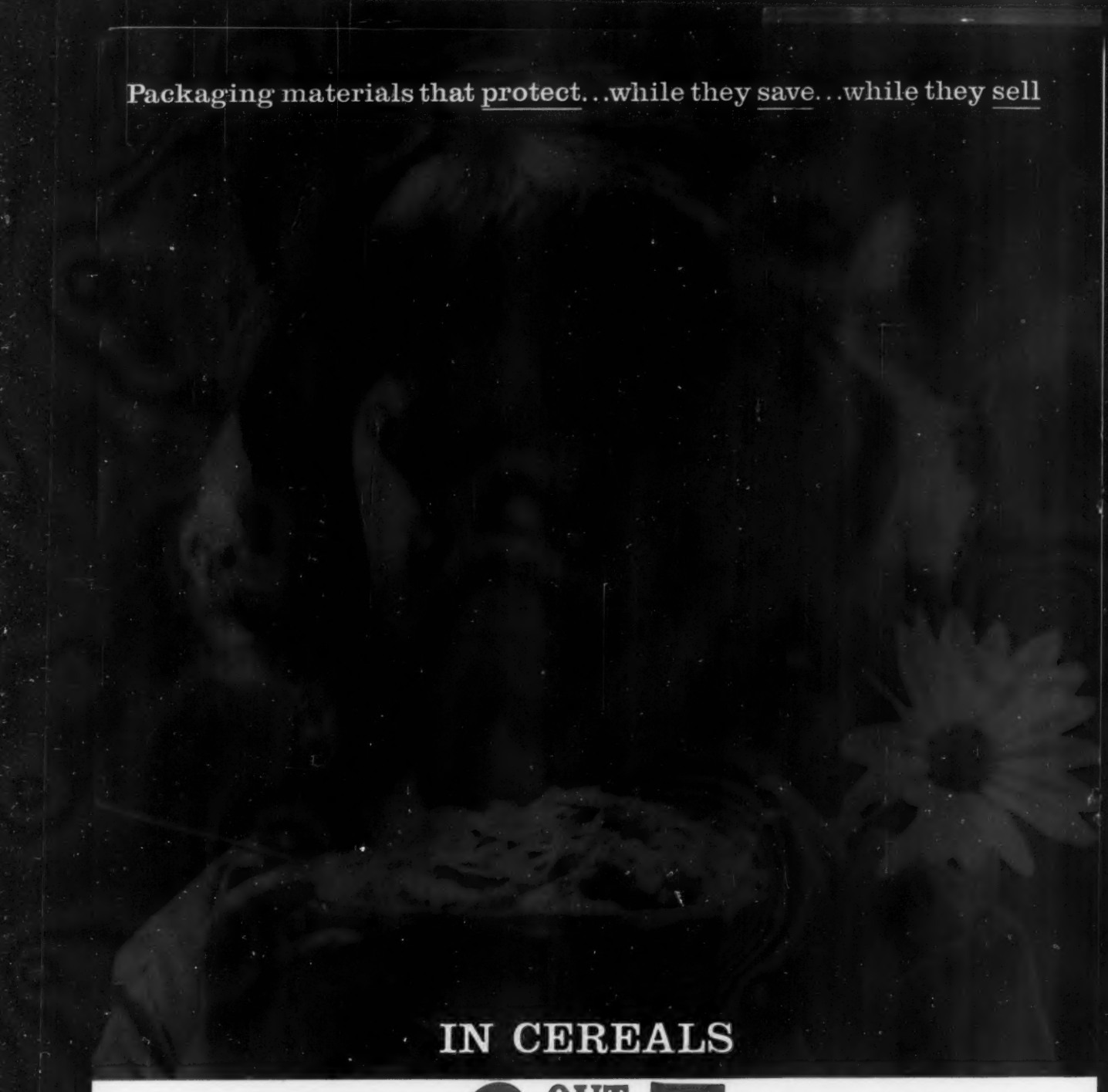
Task-Designed Meritseal caps by Crown spin on swiftly and smoothly, speeding production. On the retail shelves their sparkling lithography commands attention, speeding sales. At home, they are easy to remove, and seal efficiently when replaced, building brand preference. May we have the opportunity to discuss or provide you with more details?

CROWN

for closures • cans • crowns • machinery

CROWN CORK & SEAL CO., INC., 9300 Ashton Rd., Philadelphia 36, Pa.

Packaging materials that protect...while they save...while they sell



IN CEREALS

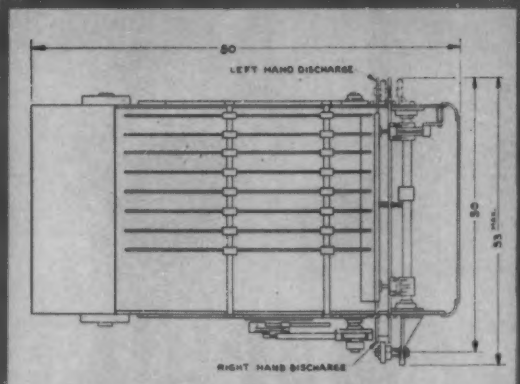
6 OUT OF 7 BUY Riegel

Six of the seven largest cereal manufacturers use Riegel packaging materials regularly. They buy Riegel because long personal experience has given them faith in Riegel's technical leadership and Riegel's ability to tailor-make the right paper for the product. This confidence, demonstrated by sales leaders in *many* fields, is an important reason why you too should talk to Riegel.

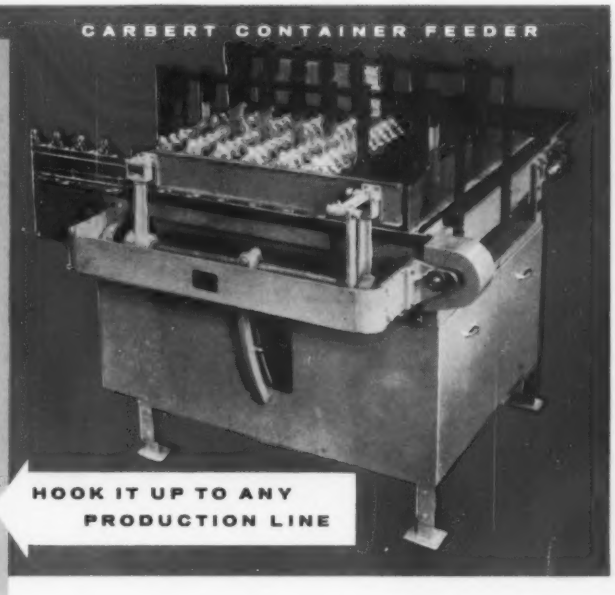
More than 600 different Riegel materials . . . standard or tailor-made . . . assure you just the right combination of product protection, machine efficiency and low cost. Pouch papers, paperboards, glassines, foils, films . . . laminated in various combinations . . . plastic-coated or waxed . . . printed or plain. Write to Riegel Paper Corporation, 260 Madison Avenue, New York 16, New York.

LINES THEM UP FOR ORDERLY FEEDING

low cost unit simplifies "unscrambling"



▶ Adjustments for size changes quickly and easily completed. ▶ Container may be discharged from either right or left. ▶ Stop bar adjustable to stroke of 1½" to 4½". ▶ Simple, rugged construction and minimum maintenance. ▶ Speeds, up to 30 cycles per minute.

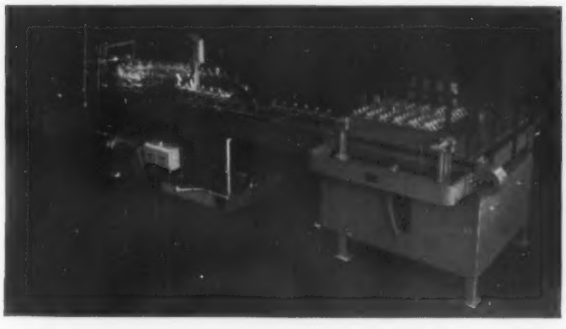


PNEUMATIC SCALE CORPORATION, LTD., 82 Newport Avenue, Quincy 71, Mass. *Sales Offices: New York; Chicago; Dallas; Rochester. Agents: Fred Todt Company at Los Angeles, San Francisco and Seattle. Rockwell Pneumatic Scale Ltd., Edgware Road, London, N. W. 2, England, O. R. M. A., Paris, France. Carbert Manufacturing Co. Division, Cambridge, Mass. Delamere & Williams Co., Ltd., Toronto.*

FOR LARGE VOLUME PRODUCERS

There's been a big and growing need for this relatively small, low cost unit. Hooked onto any production line it "organizes" the containers and gently regiments them into the proper single line groups for fast, smooth feeding to the next operation.

Get all the facts. Send for bulletin 143.



★PNEUMATIC

Packaging and Bottling Equipment

Portrait of a trend

With an industry trend to family-size packages, this packer wanted an extra large container to complete his line. It had to be lightweight, yet strong enough to resist "water hammer" damage.

Here's the answer . . . life size. Gently rounded at shoulder and heel, the jar's shape funnels impact to metal cap or strong bottom. The jar has a bulk appearance, yet it's squattier than regular quarts . . . fits crowded shelves. Designed and produced by Armstrong Cork Co., Lancaster, Penna.

Armstrong PACKAGING

1860-1960 Beginning our second century of progress

WATCH ARMSTRONG CIRCLE THEATRE EVERY OTHER WEDNESDAY EVENING ON CBS-TV

PICTURED ABOVE WITH REYNOLDS WRAP... FINE PRODUCTS OF KELLOGG COMPANY

The *gleam* of aluminum can help create a quality *product image* at first sight...as with a foil overwrap or carton. And aluminum foil *protection* can help develop a quality *brand image* . . . even though the foil takes the form of a hidden inner bag, as it may in various packages of a line, or in products packed for high moisture vapor pressure areas. Such a line is shown here, reproduced on Reynolds Aluminum Foil. It illustrates a proved way to image improvement ...Reynolds Wrap Aluminum Packaging.

QUALITY PROTECTED WITH Reynolds Wrap ALUMINUM PACKAGING

SEAL HELPS SELL! Proclaim the fact that your product has the quality protection of Aluminum Foil... it pays! Tell the story on your package, too...with the Reynolds Wrap Aluminum Packaging Seal. Used on more and more products, known to more and more shoppers...surveys prove it helps sell!

PRINTED BY OFFSET

Look to the Leader in Foil Packaging

REYNOLDS ALUMINUM

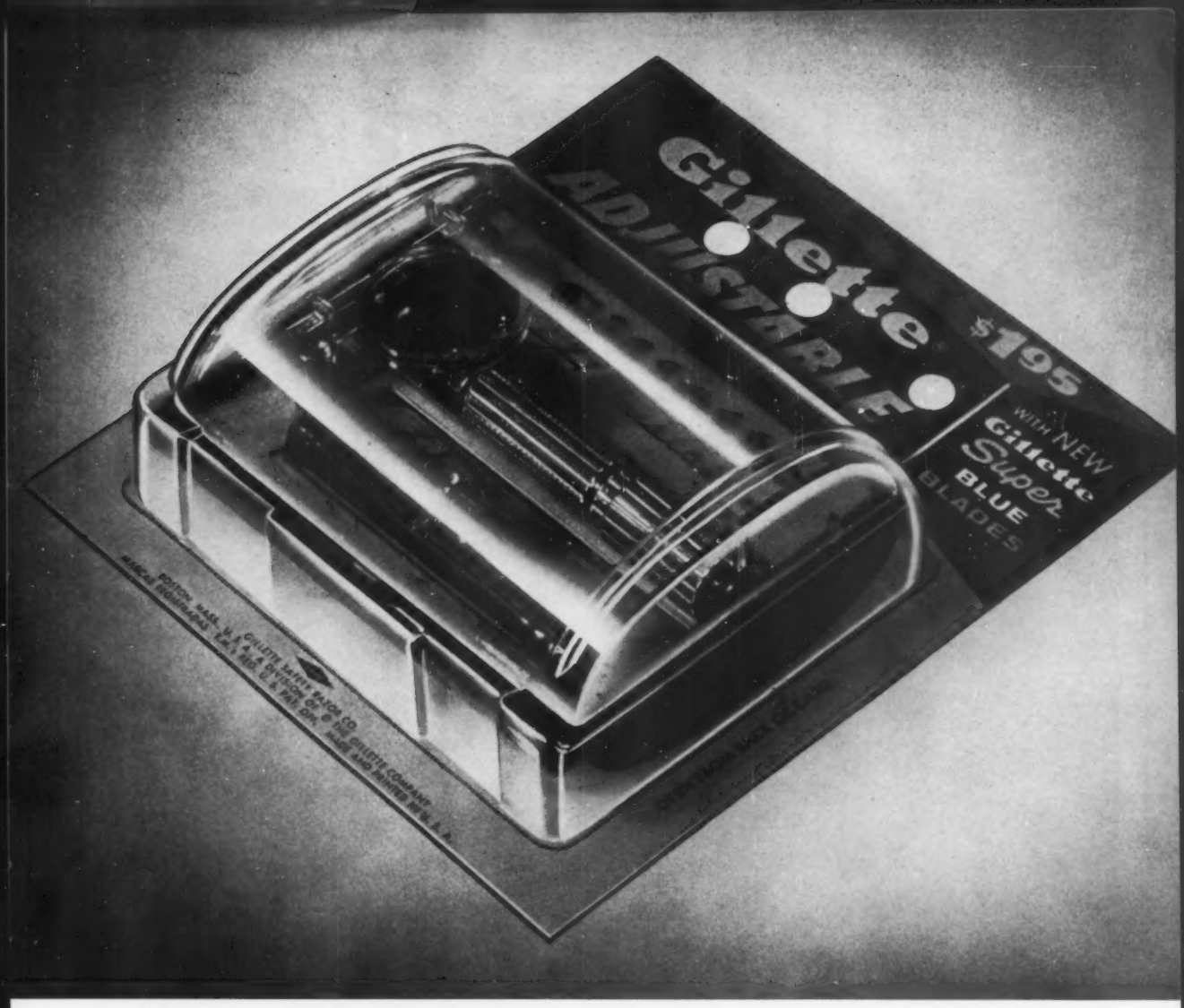
PACKAGING LEADERSHIP

To make the best use of the best materials is a good formula for leadership in any field. In packaging, the best material is admittedly aluminum foil ...for both protection and display. And the Reynolds Metals Company believes it makes the best use of this material in any type of packaging you may require...overwraps, labels, liners, pouches, containers and folding cartons which now include the Mead-licensed Cluster-Pak.* For full details call the nearest Reynolds sales office. Or write **Reynolds Metals Company**, Richmond 18, Virginia.

**Registered Trademark of the Mead Corporation*

Watch Reynolds TV shows: "BOURBON STREET BEAT" and "ADVENTURES IN PARADISE"; and, resuming in October, "ALL STAR GOLF"—ABC-TV.

REYNOLDS ALUMINUM

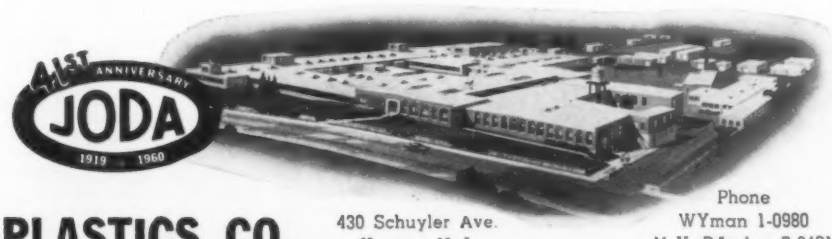


Butyrate Sheeting

by **JOSEPH DAVIS PLASTICS CO.** was selected for packaging the new Gillette adjustable razor by the **Plaxall Co., Long Island City, N. Y.,** fabricators of the package. JODA butyrate sheeting is a *superior* material with all the crystal clarity and extra strength needed for sales appeal and protection, a material worthy of the finest products made. That's why it's finding more and more favor with packaging men whenever blister or skin packaging is indicated.

JODA transparent extruded butyrate sheeting is available in a variety of gauges and widths. Why not investigate the advantages of JODA butyrate and acetate and see for yourself how they can help solve your packaging problems?

Send for Brochure M.



JOSEPH DAVIS PLASTICS CO.

430 Schuyler Ave.
Kearny, N. J.

Phone
WYman 1-0980
N. Y. BArclay 7-6421

your product belongs

in glass by Brockway

Just as a boy and his Dad go hand in hand, so do consumer acceptance and products packaged in glass. • Your product can win this coveted consumer acceptance when presented in an attractive glass container by Brockway. • Products packaged in glass have proven themselves to be the products most readily accepted on sight by the consumer. Seeing is believing . . . and when they see your product displayed in a glass container, consumer acceptance is assured. • A product that is worthy of consumer acceptance deserves a quality glass container by Brockway.

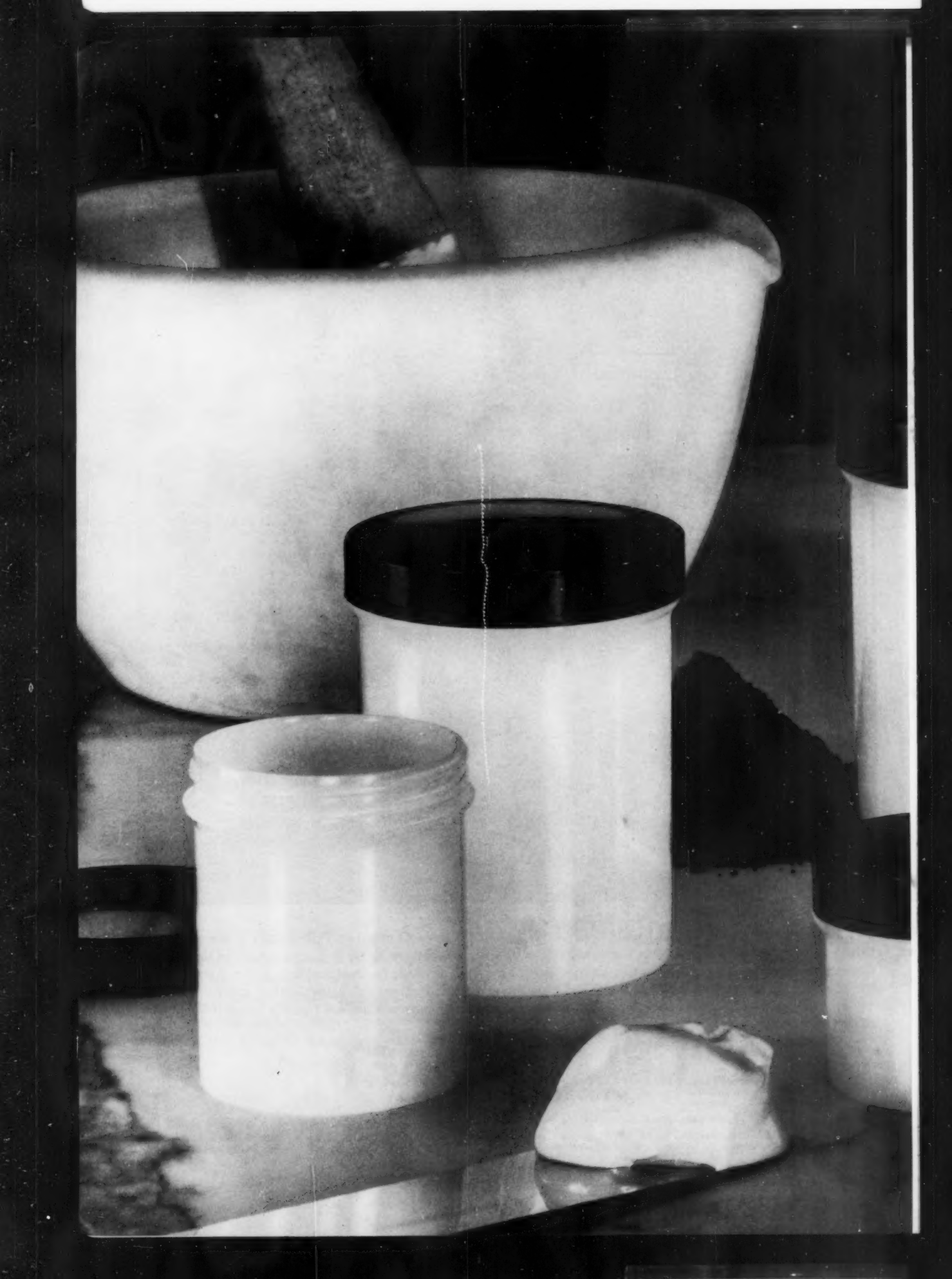
BROCKWAY GLASS
COMPANY, INC., Brockway, Pennsylvania
Sales Offices in Principal Cities
SUBSIDIARIES: Demuth Glass Works, Inc., Parkersburg, W. Va.
Tygart Valley Glass Co., Washington, Pa.

...by Cellu-Craftsmen

Meticulous attention to detail by Cellu-Craft's production staff brightens your package's competitive future, adds lustre to your sales picture. Every package produced by Cellu-Craft is precision-processed for greatest marketing potential. Each step is controlled with utmost care, as film flows through the most modern facilities... including Art, Engraving, Printing, Laminating, Extrusion Coating, and further Converting. Ask for a Cellu-Craft packaging consultant to show you why your product will fare far better in the hands of Cellu-*Craftsmen.*

CELLU-CRAFT
PRODUCTS CORPORATION

General Offices & Plant: 1401 4th Ave., New Hyde Park, New York, PRimrose 5-8000. *Sales Offices in principal cities.*
DESIGNING of flexible packages. PRINTING: Glolux® Gravure, Process, Line & Tone Flexography on Cellophane, Polyethylene, Glassine, Extrusion Coatings, Laminations, Foil, Acetate, Pliofilm. CONVERTING: Rolls, Sheets, Bags, Pouches, Envelopes.



High-Density Polyethylene Jars

High-Potency Blend of Sales and Performance

To CATCH A CUSTOMER, catch his eye . . . and eye-catching gloss gives your product a head start toward sales.

Notice the gloss on these jars—a fine, clear finish that stops shoppers, rivalling the caps of phenolic plastic or enameled metal. It's just one of the obvious advantages of BAKELITE Brand high-density polyethylene. The jars are firm and rigid, too. They're resistant to chemicals, oil, and grease. They save shipping costs because they're so light in weight—only ⅕ the weight of glass. And they won't break.

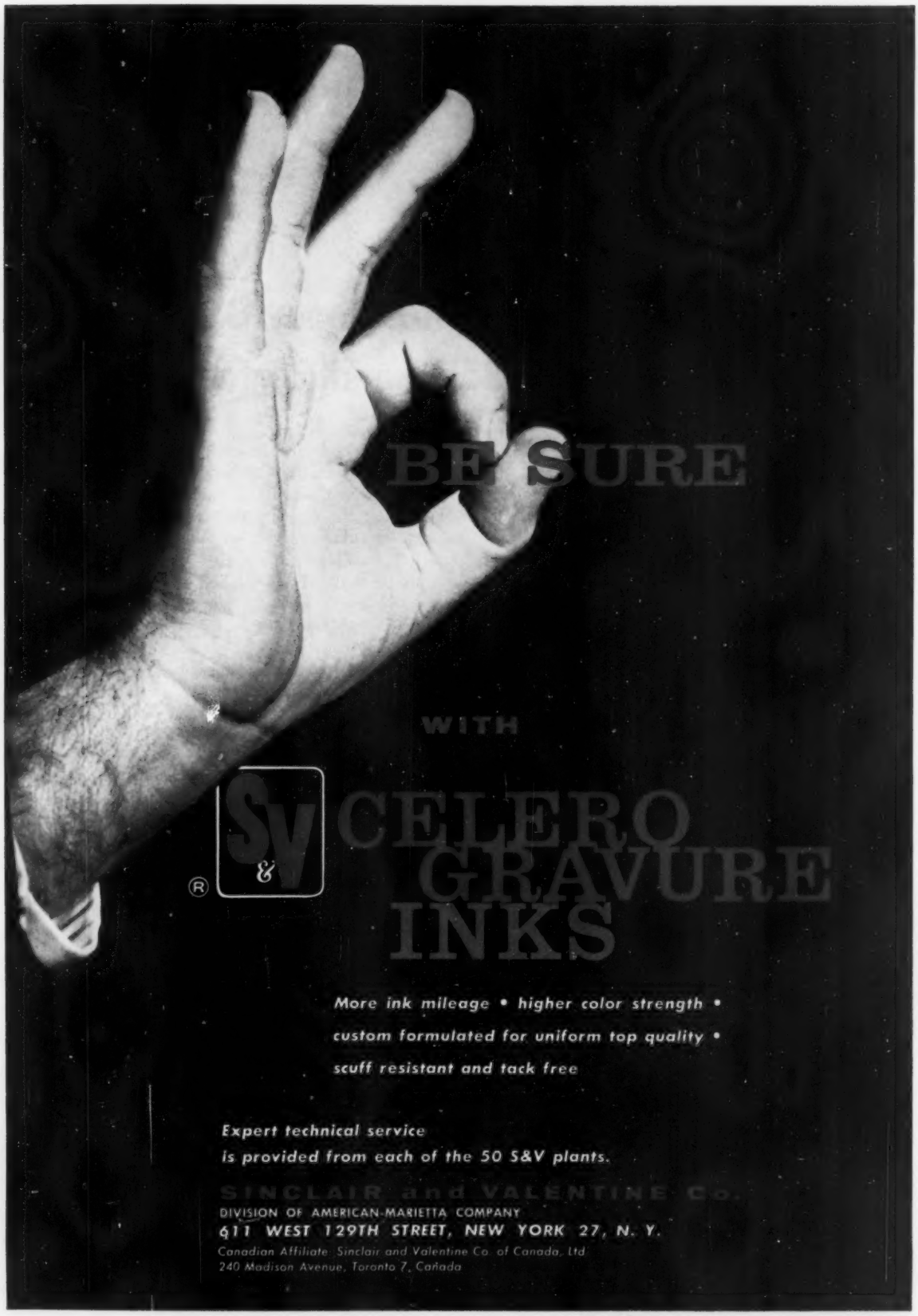
Just about every type of molded package can be made of high-density polyethylene and get these benefits. What's more, this material will stand up under steam sterilization. Like all polyethylenes, it comes in a full range of attractive colors. When you plan a new package, use high-density polyethylene and get one that's right from the start.

You can get the best plastic package for your needs when you have the widest selection of materials to draw from. Union Carbide Plastics Company offers the greatest range of packaging plastics available today, each formulation engineered for a definite set of end-use characteristics. Learn about them by writing Dept. BQ-86, Union Carbide Plastics Company, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N.Y.
In Canada: Union Carbide Canada Limited, Toronto 7.

Stock jars made by Celluplastic Corp., Newark, N.J., are molded of BAKELITE Brand high-density polyethylene DMD-7000. Their finish is notable for its gloss. They can be multicolor printed.

Visit our booth at the 8th Western Package Show, Los Angeles, July 19-21 Booths 422, 426

UNION CARBIDE


BE SURE
WITH
S&V
CELERO
GRAVURE
INKS
More ink mileage • higher color strength •
custom formulated for uniform top quality •
scuff resistant and tack free
Expert technical service
is provided from each of the 50 S&V plants.
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Do you play with world's most expensive chips?

Join those who depend on DOUGHERTY BROTHERS

Years, millions of dollars have been spent on a new product which has finally been thoroughly tested and approved. Inevitably, others are working toward the same goal and the real success of your big gamble now depends on the speed with which you are able to market it ahead of your competition.

This is the time you need packages for your samplings in hours instead of days . . . production packages in days instead of weeks . . . and there is one place where you can get them: at Dougherty Brothers.

Dougherty Brothers' modern facilities are unique. The many operations in dropper assemblies, in ceramic decorating, which at one time had to be done by hand, are now accomplished by Dougherty Brothers' modern machinery.

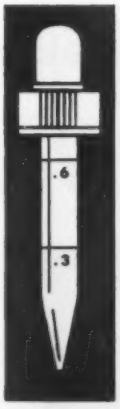
Dougherty Brothers' facilities are completely integrated. We do not have to wait for suppliers—and you will not have to wait for Dougherty Brothers when your million dollar chips are down, or at any other time.

For the best in pharmaceutical and cosmetic packaging, write, wire or phone Dougherty Brothers.

DOUGHERTY BROTHERS

Buena, New Jersey

DROPPER ASSEMBLIES • CERAMIC LABELING • GLASS SPECIALTIES • CLOSURES

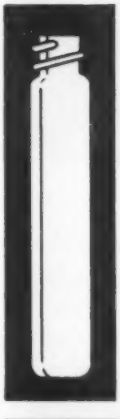


DROPPER ASSEMBLIES:

Glass or poly, any size, any type tip, bulb, cap, pipette. Calibration by hot stamping, silk screening. Sterile wraps, dust wraps, boat wraps. DB manufactures all component parts, assembles them automatically on machinery of own design. Result: a cleaner, less expensive dropper assembly, faster.

CERAMIC DECORATING:

Withstands all sterilization, is a must for parenterals. Ideal for samplings and production runs. Small type, delicate design is reproduced crisply, cleanly, in all colors (including metallic inks). Our automatic machinery has greatly reduced price and increased production speed.



GLASS SPECIALTIES:

Complete line of small glass containers—air tubes, ampoules, neutra glass molded containers, all types of vials—shell, snap cap, screw cap, patent lip, stopper vials (all available with appropriate cap, with ceramic decorating if desired).

INJECTION AND COMPRESSION MOLDING:

Now that mold making facilities have been added, our injection and compression molding service is completely integrated. It also includes printing, wrapping, assembling. Prompt service on delicate and precise moldings of caps and small objects required by the drug and cosmetic industries is our specialty.

masters in the field of

COLOR

JASPER VASE BY WEDGWOOD

Josiah Wedgwood (1730-1795), perhaps the greatest of English potters, created ware that is still used and duplicated today. The descendants of this master craftsman continue to operate the famous Wedgwood factory . . . frequently utilizing old Josiah's original molds.

At Westchester thermoplastic colors are formulated by craftsmen of long experience . . . who work with strict chemical and physical controls. Every Westchester color is scientifically tested for desirable temperature and flow characteristics and resistance to degrading and migrating. Westchester color concentrates and pre-mixed color blends are regarded as the criteria of quality for the thermoplastics industry. When you see Westchester stamped on your containers of resin, you know that *you are using the custom color you specified.*

Write now for detailed information on any color problem involving linear and conventional polyethylenes, polypropylenes, and other thermoplastics.

APPROVED FOR FOOD, DRUG AND COSMETIC PACKAGING

A new series of FDA certified WESTCHESTER colors is now available. These colors are supplied with a registration number, attesting FDA approval of the pigments.

*WESTCHESTER PLASTICS, Inc.

326 WAVERLY AVENUE, MAMARONECK, N. Y. • OWens 8-7410

Custom Compounders of Polyethylene Molding Powder and other Thermoplastic Materials

Manufacturer and Developers of Unicolor and Formacolor *Plisthene, Formacolor, Unicolor® T.M. Reg. U.S. Pat. Off.

There is No Substitute for...Dependability!

FOR LARGE JOBS OR SMALL...

BARTELT MACHINES ARE A SOUND INVESTMENT!

You Can *Depend* on Bartelt for:

- **Quality Output** — Superior seal strength, high filling accuracy and minimum package distortion assure the highest package quality.
- **Versatility** — Designed for fast change-overs as well as a wide range of package sizes and types; Bartelt versatility is unmatched.
- **Rugged Reliability** — Bartelt machinery has repeatedly been proven capable of meeting the highest production requirements.
- **Minimum Upkeep** — The simplicity, accessability and ruggedness of Bartelt equipment assures minimum maintenance costs.
- **Custom Design** — Each Bartelt machine is designed to meet the customer's specific requirements.

Where unfailing quality counts . . . Bartelt!

"Machinery for Creative Packaging"

BARTELT ENGINEERING COMPANY

1900 HARRISON AVE., ROCKFORD, ILLINOIS, NEW YORK OFFICE: 370 LEXINGTON AVE., N.Y.C.

Never before such precise temperature control at this price!

$120 (SENSOR EXTRA)

Honeywell's new Resistance Bulb Controller responds to temperature changes as small as 0.1°, yet is modestly priced.

Honeywell's new R7087 temperature controller is a precision instrument designed for industrial use wherever temperatures must be precisely controlled: in packaging and plastics processing; plating tanks; annealing, bakery and paint-drying ovens; and in laboratory applications. Unusual flexibility is gained through a wide choice of sensors making ranges from −150° to +1400° F. possible. Centigrade scales are also available.

The new transistorized controller compensates for ambient temperature variations. Sensor connections of regular 18-gauge copper wire may be used up to 300 feet without sacrificing accuracy. Time proportioning with adjustable cycler timing is provided.

Panel lights indicate when unit is below, on or above set point. Controller can be surface-or flush-mounted, features illuminated dial. Other models are available with position proportioning.

For further information, call your local Honeywell office. Or write, Honeywell, Minneapolis 8, Minnesota. In Canada contact Honeywell Controls Limited, Toronto 17, Ontario.

75th YEAR PIONEERING THE FUTURE

Honeywell

First in Control

SINCE 1885

Specify HINGE-FOLD Trademark for STRONGER Consistently Better

CORRUGATED CARTONS

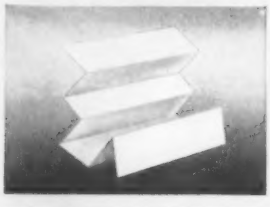
"Hinge-Fold", a new concept of corrugated creasing and folding, produces cartons which set new standards of accuracy, uniformity and strength.

The machine which makes this possible is the International LB Gluer, for it is in the machine's unique creasing section that the double hinge of the fold is formed. The double hinge has the effect of forming the corrugated board into a column which prevents compression of the inner liner and stretching of the outer liner when folded.

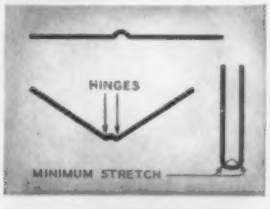
Hinge-Fold cartons increase top-compression strength, and resist folding fractures . . . even when stored in dry places. Hinge-Fold eliminates the folding fractures which result from the abrasion and tearing action of knife-edge creasing which have long plagued the folding box industry.

HOW HINGE-FOLD BUILDS BETTER STRONGER CARTONS

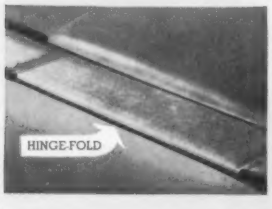
You can't "fold" a piece of lumber. Because of its thickness the fibres on the outside will stretch, and then fracture completely.



On the other hand, lightweight papers can be refolded many times without fracturing because there is less stretching.



Heavy boxboard must be scored to permit folding. Note how Hinge-Fold score creates dual hinges which minimize stretching.



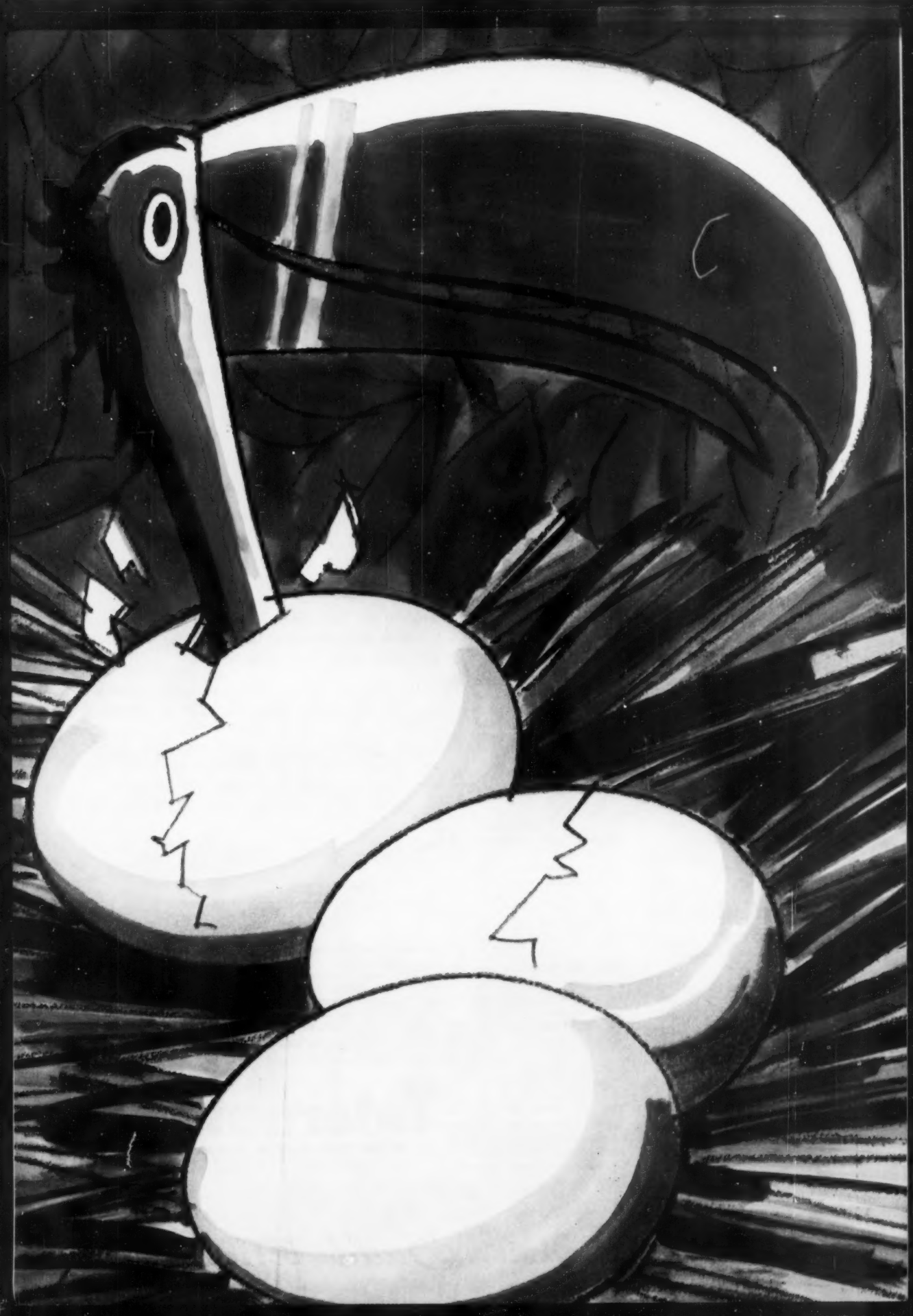
Note the stress on the upper crease made with common rotary score. Compare it with the square strain-free Hinge-Fold crease below.

The next time you buy, specify Hinge-Fold cartons. Tests made by Container Laboratories, Inc. prove that Hinge-Fold cartons are "consistently better . . . in all properties measured". Write us for a copy of their report.

The international
PAPER BOX MACHINE COMPANY
315 MAIN STREET, NASHUA, NEW HAMPSHIRE

IPBMCO

international machines . . . Build BETTER CARTONS



The Perfect Container doesn't Just Happen!

THINKERS may debate "which came first," but no one denies that Mother Nature gave us the perfect package when she created the egg . . . a container that does what it's supposed to do . . . best!

MiraCans. . . A Miracle of Convenience!*

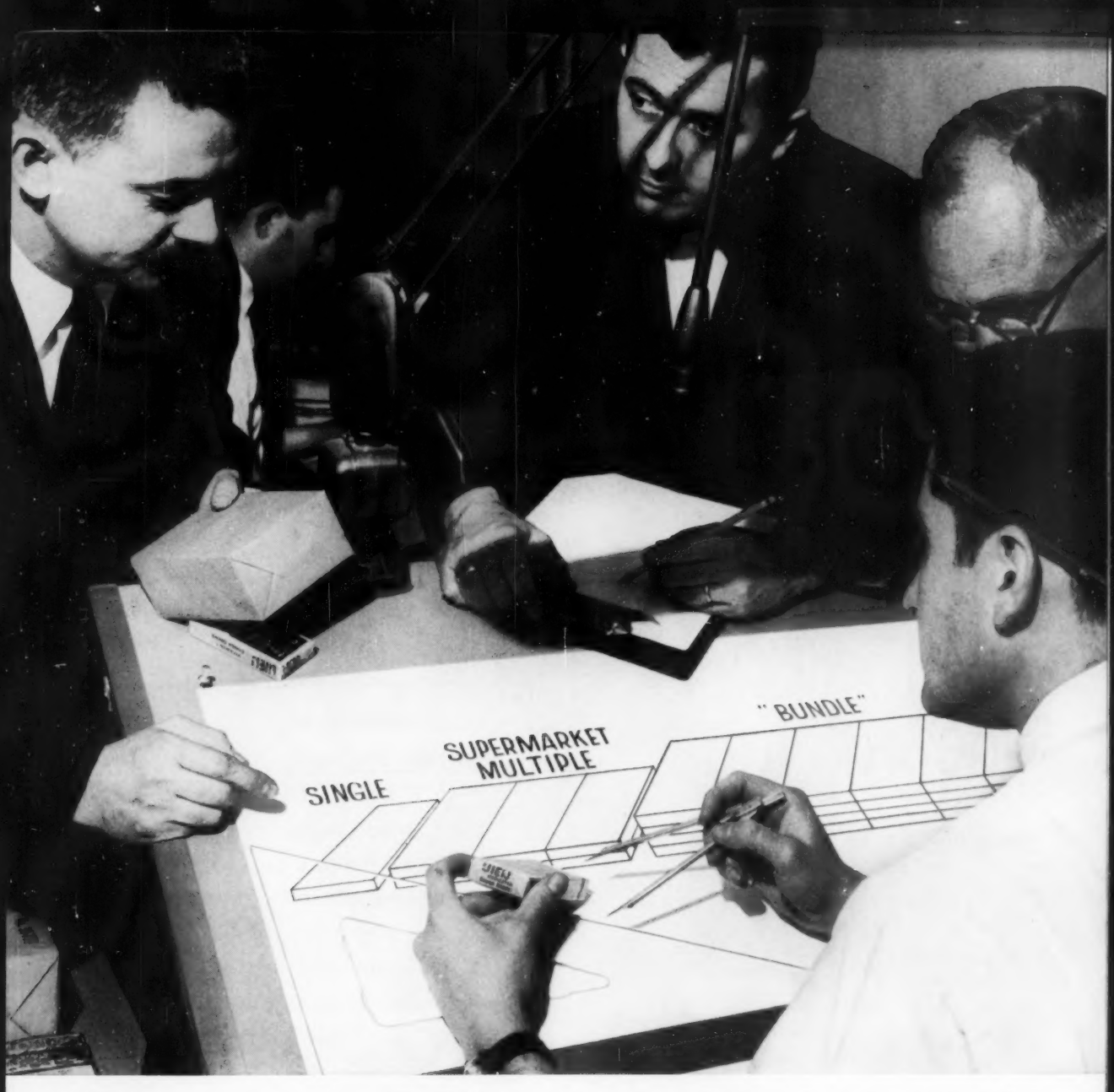
In the soft-drink field, *MiraCan* is the container that does what it's supposed to do . . . best! This convenience container, to meet modern marketing needs, didn't just happen. Canco's inventiveness and manufacturing know-how combined to perfect the *MiraCan* expressly for the carbonated beverage industry . . . another in the long line of container "firsts" and "bests" from Canco.

For greater sales and profits put Canco's research, manufacturing facilities and aggressive marketing team to work for your products.

*Registered trade-mark of the American Can Company

GREAT CONTAINER IDEAS COME FROM CANCO

CANCO DIVISION
AMERICAN CAN COMPANY



Save up to 80% on packaging costs with a free analysis by Scandia

Call or write Scandia today to find out how modern "bundling" can bring you savings and improved packaging.

You can save up to 80% *on materials costs alone* with Scandia Bundling Machines using either film or Kraft paper to overwrap distribution packages of 12 or 24 retail units. Hand-filling of display containers is eliminated, too. And cost of warehousing packaging materials inventory is sharply reduced.

Bundling is not the whole story. Scandia also offers a full range of machinery for overwrapping single packages in clear or registered, printed film, with handy opening tape. And supermarket multiples in plain or Holiday wraps.

Over 40 years of experience in the design and construction of semi-automatic and high-speed fully automatic overwrapping machinery are back of Scandia's offer.

Scandia Packaging Machinery Company, North Arlington, New Jersey. WYman 1-8400.

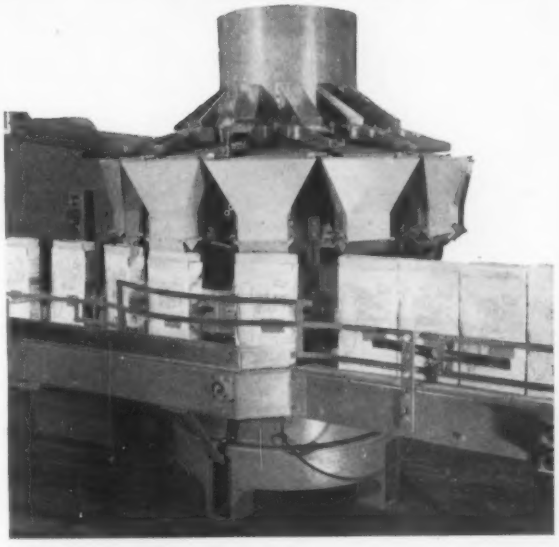
SCANDIA
MEANS CRAFTSMANSHIP

ac'cu-ra-cy (*ăk'u-rà-sĭ*)

. . . *as in* WRIGHT *weighers*

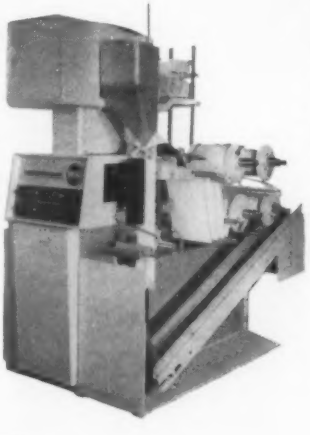
Included in the Wright line of packaging machinery is a wide variety of weighing equipment.* These machines differ in function but each has this common characteristic: precision accuracy. Wright customers abhor waste. They refuse to condone overweights. Mail the coupon below for tell-all literature.

* *Examples of other Wright machines are the Wrightwrap® for wrapping, sealing, and labeling cracker sandwiches, and the Strip Stamper for applying revenue stamps to bottles.*



WRIGHT NT WEIGHER

Rotary net weigher for packaging the total output of a continuous production process such as a bakery oven. Synchronized carton flow. Range: 3 to 16 oz. Speed: 70 to 120 per minute.



WRIGHT Advanced Bagmaster®

Completely automatic bag forming-weighing & filling-sealing system. Produces up to 45 pillow-type packages per minute in range from 2½ to 8 inches in width and from 3 to 14 inches in length. Advance features permit the precision and accurate packaging of fragile and multi-dimensional products.

HY-TRA-LEC® Weigher M

Complete line of semi-automatic and automatic, single head and multiple head net weighers for packaging free-flowing, dry products into any type package. Utilizes Wright's patented Hy-Tra-Lec weighing method. Precise. Rugged. Range: ½ to 16 ounces.

WRIGHTRONIC® Checkweigher

Electronically gross weighs each package at speeds up to 150 per minute and (1) signals whether package is overweight, on weight, or underweight, (2) registers a running visual count in each weight classification, and (3) rejects any package outside plus or minus limits. Range: 4 ounces to 2 pounds.

WRIGHT MACHINERY COMPANY

DIVISION OF SPERRY RAND CORPORATION
DURHAM, NORTH CAROLINA

Gentlemen: Please send me descriptive literature on the following machines:

( ) WRIGHT NT WEIGHER
( ) ADVANCED BAGMASTER®
( ) WRIGHTRONIC® CHECKWEIGHER
( ) HY-TRA-LEC® WEIGHER

NAME.....

COMPANY.....

STREET.....

CITY & STATE.....

Your challenge of the EXCITING 60's

—AVERAGE FAMILY INCOME $8,600!

LET ANCHOR HOCKING GLASS PACKAGE RESEARCH HELP YOU CAPTURE A BIGGER SHARE OF CONSUMERS' DOLLARS IN THE 60's!

Wage studies indicate that income levels during the 1960's will spurt to a new high . . . close to $8,600 by 1965. Families with this new "wealth" will be shopping for more and more products to meet growing needs.

The share of dollars these families will spend on *your* products can be substantially affected by adoption of the glass package with all its appeal, convenience and protection advantages. To help you make the best use of *glass packaging*, Anchor Hocking offers the benefits of knowledge and techniques acquired through decades of continuing research.

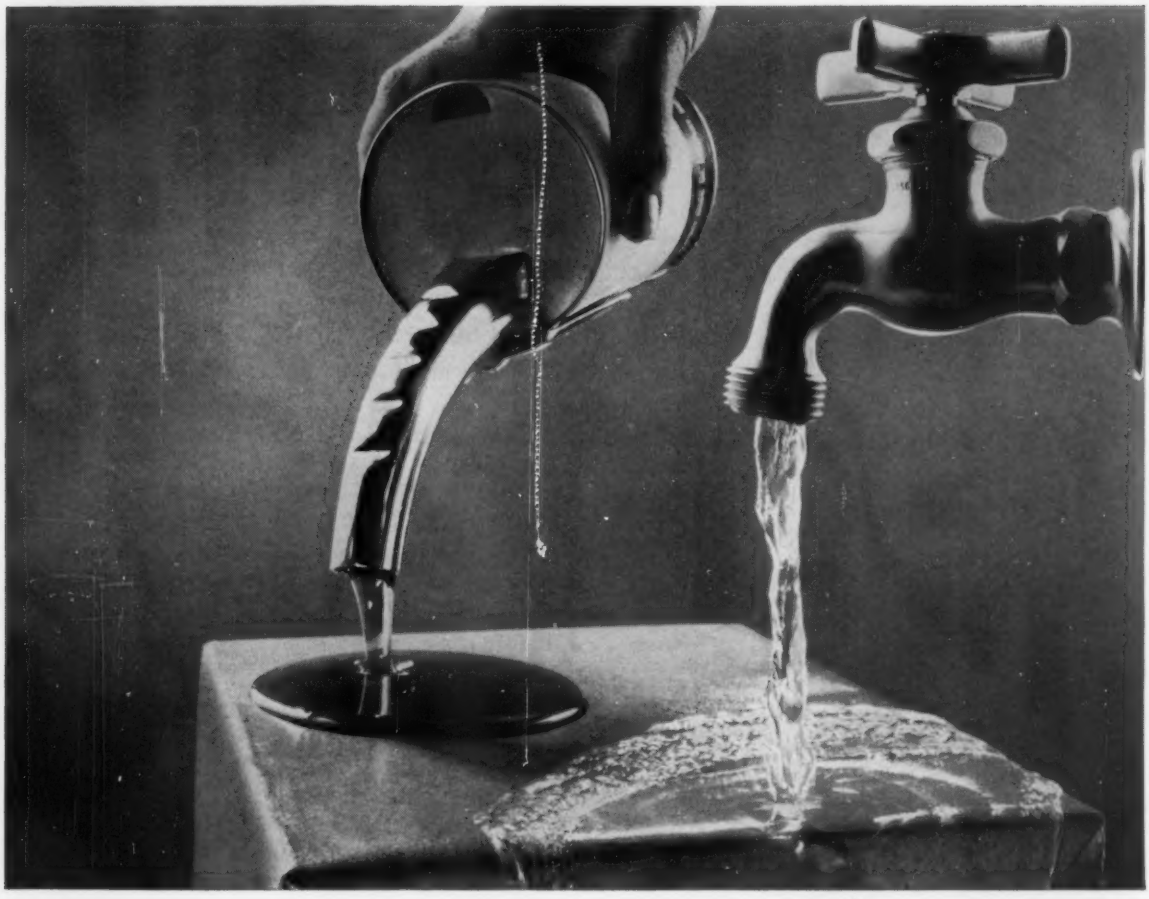
Anchor Hocking research probes for new data, new applications to provide more dependable, efficient, convenient and economical glass containers and closures. It extends from the selection of the raw materials to the final inspection of the finished products. Basic and applied, qualitative and quantitative Anchor Hocking research results in dependable, high-quality packaging for your products—Anchorglass® packaging to help you meet your challenge of the 60's. Anchor Hocking Glass Corporation, Lancaster, Ohio—bringing you the extra values of *specialization* in glass packaging.

ANCHOR HOCKING

Get set for the exciting 60's with Anchorglass Packaging—put an Anchor Man on your team

3M COMPANY CHEMICALS

THE RAW MATERIALS OF PROGRESS



Paper resists oil, water—It's treated with SCOTCHGARD®

GREASE & OIL REPELLENT PAPER SIZE

Make a test like this yourself: Pour oil and water on paper treated with SCOTCHGARD Brand Grease and Oil Repellent Paper Size. See the liquids refuse to "wet" and "wick"—see the resistance paper has to them. This is practicality you can put into a package.

Put an end to oil-stained cartons and wrappings. Keep your packages neat . . . from packing through shipment, storage and point-of-sale. Do this without sacrifice of color, strength, porosity, flexibility or any other important characteristic. SCOTCHGARD Paper Size, one of 3M Chemical Division's family of fluorochemicals, penetrates paper fibers. It is not laid on as a film or coating. Chicago Rawhide Manufacturing Company uses treated paper to wrap greasy and oily parts and gets a neat and clean package as a result. International Harvester solved a 70-year-old penetration problem in its binder twine wrapping. Label and carton are now always readable, free of oil stains.

Here's what SCOTCHGARD Grease and Oil Repellent Size can accomplish for you: Give unparalleled resistance to asphalt penetration. Prevent unnecessary wax penetration on waxed papers. Permit use of thinner-than-normal polycoating. Permit packaging of greasy and oily parts without penetration. Prevent grease crawl and staining at seams and closures in multi-wall bags. "Hold out" dope and prevent strike-through in carbonizing tissue.

KEL-F PLASTIC FILM—FOR SEE-THROUGH, FLEXIBLE PACKAGES! Put paints, cosmetics, pharmaceuticals, chemicals into impermeable KEL-F Brand Plastic Film packages for heavy-duty protection without bulk. It's almost completely unaffected by heat, caustics, acids, temperatures. It's moisture-proof and shatter-proof. Withstands handling, storage, shipping. Gives maximum security, endurance, good looks and convenience.

In what way can SCOTCHGARD Paper Size and KEL-F Plastic Film help you package best? Write today to 3M Chemical Division for facts. Address inquiries to 3M Chemical Division, Department KCB-70, St. Paul 6, Minnesota.

"Scotchgard" and "KEL-F" are Reg. T.M.'s of 3M Co.

SEE YOU at the 29th A.M.A. National Packaging Exposition, April 4-7, Convention Hall, Booths 212-218, 222-230, Atlantic City, N. J.

CHEMICAL DIVISION

MINNESOTA MINING AND MANUFACTURING COMPANY

. . . WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

NOW! . . . *out of* **genetron®** *aerosol research*

A new concept in aerosols ...QUICK-BREAKING FOAMS

Unique quick-breaking aerosol foams are dispensed on a limited area . . . break into liquid when disturbed! Promise important advantages for many products, including:

- **After-Shave Lotions**
- **Nail Polish Removers**
- **Hair Dressings**
- **Sun Screen Lotions**
- **Cold Wave Lotions**

In after-shave lotions and nail polish removers, to take just two examples, see how new Quick-Breaking Foams can be used to make application easier and more convenient . . .

Quick-breaking foam in the palm of the hand

. . . turns into liquid when applied to the face.

A dab of quick-breaking foam on the fingernail

. . . changes to liquid when touched with a cleansing tissue, and nail polish rubs off.

Out of intensive, continuing aerosol research in General Chemical's Technical Service Laboratories comes an important new development with dramatic potential for product improvement . . . *Quick-Breaking Aerosol Foams!*

These unique quick-breaking foams add new advantages, new product appeal that pays off in greater consumer acceptance. With this new principle you may overcome application deficiencies of many spray or stream-type aerosols; give them the extra touch of "magic" that bolsters sagging sales and builds repeat business.

Investigate this new research development *now*. As a first step, mail the coupon for free information bulletin.

genetron®
aerosol propellants
Putting the "push" in America's finest aerosols

Allied Chemical

GENERAL CHEMICAL DIVISION
40 Rector Street, New York 6, N. Y.

"Genetron" Department MG-70
GENERAL CHEMICAL DIVISION
Allied Chemical Corporation
40 Rector Street, N. Y. 6, N. Y.

Please send free "Genetron" Product Information Bulletin, "Quick-Breaking Aerosol Foam Products."

Name_____ Title_____

Company_____

Address_____

City_____ Zone_____ State_____

U.S.I. POLYETHYLENE NEWS

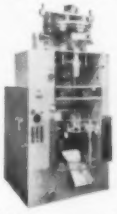
A series of advertisements for plastics and packaging executives by the makers of PETROTHENE® polyethylene resins

Packaging Notes

Lamination of 300-gauge cellophane and 2-mil polyethylene is used for low-cost, single-use package that is both a container for two aspirin tablets and a drinking cup. Heat sealing divides the package into its two compartments – upper for tablets, lower for drinking cup. It has a tear opening.

Polyethylene shower caps that double as a carrying case for damp swim suits, cosmetics and other small articles are being supplied by hotels and motels as a complimentary convenience item for guests. They can be printed with a stock or special merchandising message.

A new machine offering wide range size and high-speed automatic bag forming, filling and sealing, has recently been announced. The machine is said to be especially adapted to pouch packaging of frozen vegetables and candy products in polyethylene. It forms bags from 3" to 15" long and 2" to 8½" wide at a maximum rate of 75 per minute. Changing bag size is said to require less than 15 minutes.



Special laminates of thin aluminum foil glue-bonded to paper, with a polyethylene coating on the foil or paper, have been developed by an English company to protect phonograph records from warping when shipped in hot and humid climates. Bags made of these materials are superior to polyethylene bags alone, which, although fine for temperate conditions, may be inadequate for tropical areas because of moisture vapor penetration.

The bags are produced by folding a section of laminate in half, heat sealing the sides, inserting the record and sealing the opening. The metallic or paper outside can be printed, or the moisture-protective bag inserted into a printed over-wrap polyethylene bag.

Miniature polyethylene containers, with a hinged shaker cap permitting one-hand opening and closing, are now being used for salt and pepper–at a cost equivalent to that of paper. Body, shaker cap and lid with interlocking nib are injection molded in one piece. Bottom of the 1⅜" container is foil-laminated disk. Filling rate, controlled by printing speed, is 200 units per minute. The containers are sold in stores in tray packs of six for salt, three for pepper.

Consumers Prefer Polyethylene Wrap For Dry Cleaning and Laundry

Appeals of Flexible Containers Also Listed in Consumer Survey

In a recent survey, consumers showed a marked preference for polyethylene laundry and dry cleaning wraps; said "noiselessness", transparency, break resistance and light weight are the most appealing properties of flexible polyethylene plastic containers; and listed book covers, packaging for liquids and toothpaste tubes as the leading items "which should be made of plastic".

The survey, conducted by a market research company for U.S.I., queried a 1,300-member consumer panel to determine how they felt about polyethylene products and why. The panelists represent a cross section of consumers in seventeen major cities from coast to coast.

72% for Polyethylene

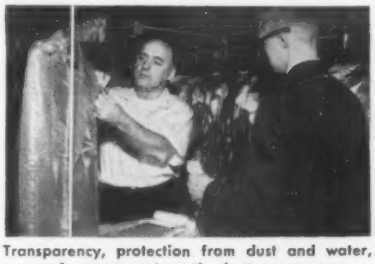
According to the survey, 72% of the panel preferred their dry cleaning and laundry wrapped in polyethylene film rather than in other wraps. High on the list of reasons for this preference to polyethylene wrap is transparency, closely followed by protection against dust and water. Other advantages cited over competitive wrapping materials are ease of storage, strength, and better appearance.

U.S.I. further learned that 70% of the participants in the survey receive their dry cleaning and laundry in polyethylene. This indicates that consumer preference for polyethylene is actually somewhat greater than the polyethylene wrapping service now being offered by cleaners and laundries.

Squeezable Over Rigid

In selecting the most appealing aspects of flexible polyethylene containers, 79% of the panelists mentioned the "noiselessness" of such containers as the basis for preference over the same item made of rigid plastic. Other scores in favor of polyethylene were: transparency 71%; break resistance 66%; and light weight 52%.

The choice of "noiselessness" as the leading property is significant in designing products to be used in hospitals, rest homes and private dwellings. Applications such as garbage cans and most houseware items are in this category.



Transparency, protection from dust and water, ease of storage, strength, better appearance, were reasons respondents to survey gave for preferring their cleaning and laundry packaged in polyethylene.

New Plastics Uses

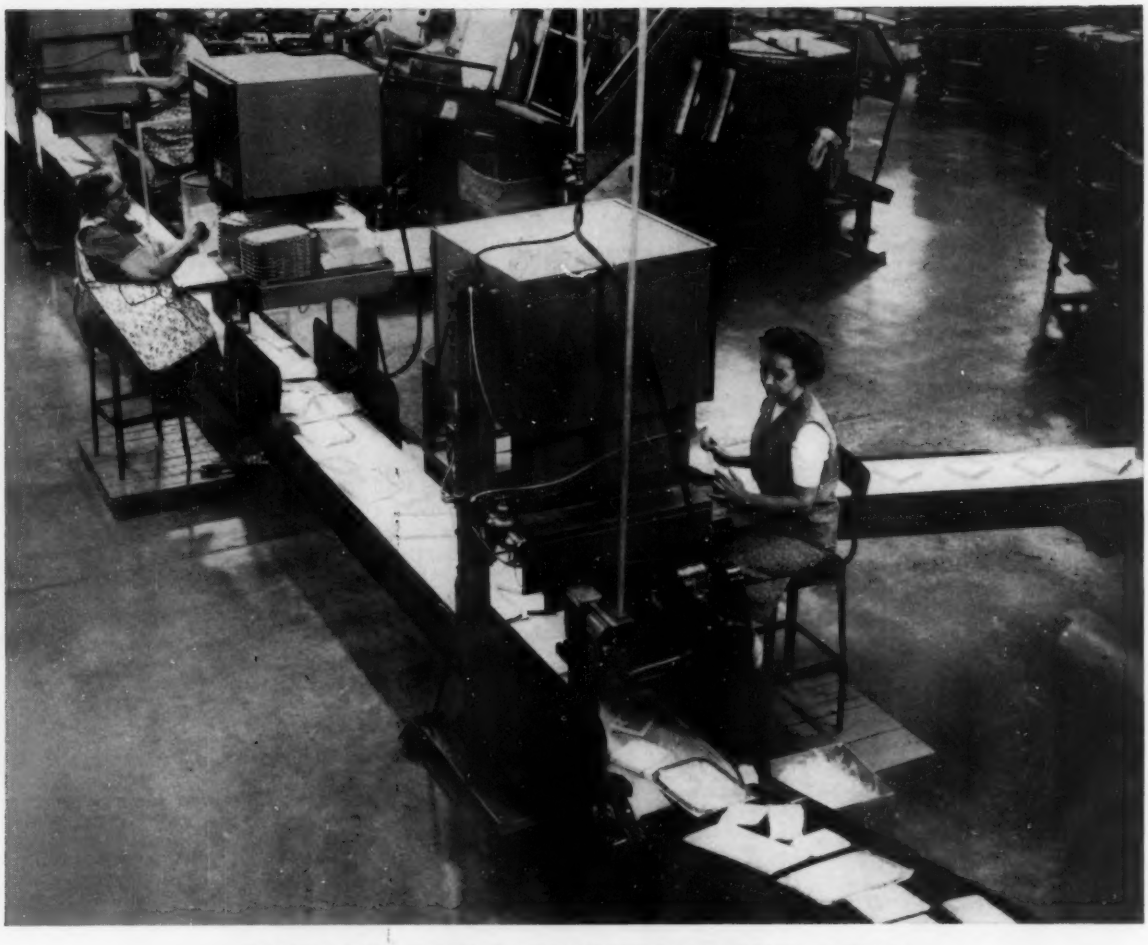
Many of the suggestions consumers gave for items they'd like to see made of plastic can be, or already are being made of polyethylene, either alone or in combination with other materials. Examples are jelly containers, household cleaner bottles, toothpaste tubes and bread wrap. The latter use has caught on rapidly with bakers and offers, according to U.S.I. estimates, a 60 million pound potential to film producers in five years. Among other items listed were packages for liquids, milk carton coating, and thread spools. Of these, polyethylene for coating milk cartons alone represents a potential market for 110 million pounds of polyethylene.

The wide range of these survey suggestions indicates an awareness by consumers of the role of plastics in daily life and their value in improving familiar household products.

Hospitals Fight Cross-Infection With Polyethylene-Coated Bags

Bags with a polyethylene-coated inner ply are being used in key locations in a paper and sack holder disposal system being installed in a number of hospitals in Great Britain. The system, aimed at cutting cross-infection, uses color-coded bags for disposal of soiled linen, dry refuse, kitchen waste, and soiled dressings. Filled bags are sealed before transporting to a location where they are sorted without physical contact with contents, and sent to the laundry or incinerator. Polyethylene-coated bags are used where most waste is involved, such as in operating rooms and the kitchen.

In addition to hospitals, the sack system is being used in factories, restaurants and municipalities for refuse collection and for collection of litter at public places. Advantages cited include hygienic disposal, ease of handling, flexibility of use.



HOW TO EASE POLYETHYLENE FILM INTO YOUR OVERWRAP PACKAGING OPERATIONS

You can lower your costs and end up with better overwraps by switching your packaging operations to economical polyethylene film. The period of change-over to polyethylene will be smooth, too, if you keep these three simple rules in mind:

OBTAIN THE PROPER EQUIPMENT

Various types of polyethylene-handling equipment and accessories are available from packaging machinery manufacturers and film suppliers. The different heat-sealing and temperature control systems, in particular, should be thoroughly investigated, since these are generally the most critical features of equipment or adapters. And take advantage of the help you can receive from U.S.I. packaging and instrument and control engineers in selecting the equipment you need. Because our experts work closely with machinery makers, they are able to answer your questions and help you solve problems.

MAINTAIN SPECIFIED FILM GAUGE

For proper sealing, the thickness of the film must be uniform because this affects heat transfer. The way to guarantee uniform thickness is to set up realistic film gauge variation specifications for your packaging operation. Then make sure your supplier meets these specs.

In general the best type of film to use in overwrap applications is *cast* polyethylene film. It has a more positive gauge control during manufacture, and it has exceptional clarity—an important advantage in most overwrap packaging. U.S.I. supplies PETROTHENE® polyethylene resins which are ideal for making *cast* film.

TRAIN OPERATING PERSONNEL

Any initial change-over problems can be greatly eased by proper training and supervision of operators. Many machinery manufacturers and film suppliers will show operators how to get best performance from both machinery and film. U.S.I., too, will be glad to advise on any technical or training problems that may arise.

Wherever these three points have been followed, polyethylene film has delivered its full promise—a more economical, more saleable package for baked goods, paper, candy, and many other products. If you'd like the advice or aid of U.S.I. in making the most of polyethylene in overwrap machinery, write to:

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

Look-alikes in all three sizes

Some time ago Northern Tissue adopted the painting of a child's head for its packages, in one, three and four roll sizes. By printing in gravure from three sets of Intaglio cylinders, Northern Tissue is assured of the identical infant on every wrapper.

Three sets of Intaglio cylinders have printed 80,000,000 wrappers, should be good for many millions more. Intaglio cylinders have a longer life, give more impressions, are far more economical for long runs than any other reproduction medium.

Check the supermarkets, and see how many of today's best sellers are in gravure packages. And remember that Intaglio produces more gravure labels, wrappers and cartons than anyone in the business.

For the best in gravure, depend on Intaglio. Why? More than twenty years experience. Pioneers in perfecting gravure reproduction methods. A skilled staff of 500—35% with us ten years or longer. Five entirely new plants in the past five years, in New York, Chicago, Detroit, Cincinnati and Boston.

And eight offices, conveniently close, at your service.

Intaglio SERVICE CORP

Intaglio Service CORPORATION

America's First Gravure Servicers

305 East 46th St., New York, New York—731 Plymouth Court, Chicago—40 Hague Ave., Detroit—1828 Lewis Tower Bldg., Philadelphia—126 West McMicken Ave., Cincinnati—1932 Hyperion Ave., Los Angeles—369 Pine St., San Francisco—Crescent St., Chelsea, Massachusetts

Ucon brand propellants put action in products

Why don't you discover Ucon Propellant service, too?

UNION CARBIDE
Ucon
REG. U.S. PAT. OFF.

Ucon and Union Carbide are registered trade marks for products of

UNION CARBIDE CHEMICALS COMPANY

Division of Union Carbide Corporation

30 East 42nd Street, New York 17, N. Y.

FIFTH OF A SERIES

MAN FRIDAY...

Looking for a dependable, versatile supplier? No need to track one on the sand. EXTRUDO-FILM can be your "right hand man." Manufacturers of polyethylene blown tubing, folded sheet and layflat sheeting, Opti-Clear cast films, pigmented films and special industrial formulations, EXTRUDO-FILM can be depended upon for everything.

Crusoe's Man Friday was dependable but no expert. The services of EXTRUDO-FILM's technical staff are yours for the asking. Knowledge of packaging machinery, film formulations, properties, at your fingertips. Whether you need .0004 or .010 your order is extruded to your specifications, under strict quality control, and shipped to meet your schedule.

EXTRUDO-FILM has sales offices in Chicago, Illinois, Jacksonville, Florida, and New York City. Manufacturing operations have now been centralized into our Pottsville, Pennsylvania plant. Contact any office for a loyal, competent, Man Friday.

EXTRUDO-FILM efc CORPORATION

New New York Address: 1841 Broadway / N. Y. 23, N.Y. / JUdson 6-8720

POTTSVILLE, PENNSYLVANIA • 100 WEST CHICAGO AVENUE/CHICAGO 10, ILLINOIS

Background for Packaging

Notes, quotes and comments. An editorial feature

Unsolved problems in the Food Additives enforcement situation include the question of what to do about the so-called grandfather clause in the existing *Food, Drug & Cosmetic Act*. This clause makes it difficult, if not impossible, for F&DA to withdraw any approval once given, thereby slowing down clearance machinery; it also is inconsistent with the Delaney Clause in the Food Additives Amendment of 1958, which outlaws additives containing carcinogens in any amount. *Secretary Flemming* has proposed a rider on pending color-additives legislation which in effect would repeal the grandfather clause in the food law. The *Manufacturing Chemists Assn.* opposes this, on the grounds that food additives and color additives (affecting also drugs and cosmetics) should not be legislatively confused.

Shifting markets must be watched by packagers in the toilet-goods field, since the end market largely determines packaging requirements. Annual estimate of the *Toilet Goods Assn.* for 1959 shows that a decline in share of the market was registered for the 10th straight year by drug stores and for the fifth straight year by department and specialty stores. Food-stores' share gained for the 10th straight year and came up to 22.9% as against 26.8% for drug stores, a 20.5% increase for house-to-house sales and a gain of 18.1% for department stores.

Enormous market for packaging in automotive service parts is indicated by private estimates showing that one automobile manufacturer alone consumed nearly 200 million packages in 1958, including 116 million folding cartons, 27 million envelopes, 26 million fibre cans and 27 million heat-sealed pouches. Pouches, both plastic and paper, are the fastest-growing package form in this field, with blister packages also becoming increasingly more important.

New potentialities in packaging for mass feeding were demonstrated at a recent stockholders' meeting of *Minnesota Mining & Mfg. Co.*, when 750 guests were served a boil-in-the-bag luncheon. Breast of chicken cacciatore was served piping hot on paper plates from bags made of 3M's polyester film, after the bags had been boiled 12 min. in large kettles accommodating 150 portions. Stockholders were impressed with the convenience and fast service, leaving no dishes or pots to wash.

New data from the *National Paper Box Mfrs. Assn.* shows that textiles (including wearing apparel and hosiery) take the largest share of set-up boxes, accounting for 29%. Next in order are retail store boxes (15%), confections (9.6%), stationery and office supplies (7.4%). Dollar sales of set-up-boxes in 1959, topping $300 million, were the largest ever.

Consumer education, together with product and package improvement, seems to have stilled complaints about the catsup bottle—for years the butt of comedians' jokes. A recent survey by the *Home Makers Guild of America,* inviting complaints and suggestions on catsup bottles, found only one in 10 homemakers of the opinion that the bottle could be improved. Interesting finding: Consumers would welcome the opportunity to purchase catsup in multipacks of two or more bottles.

Lusty growth should be noted in the field of formed foil containers. A 15% gain in sales for the first quarter of [*Continued on page 44*]


New look
in "vanishing"
creams . . . . . .
PALMOLIVE
Brushless SHAVING CREAM
PALMOLIVE
Brushless SHAVING CREAM
PALMOLIVE
Brushless
COLGATE
DENTAL CREAM with GARDOL
COLGATE
DENTAL CREAM with GARDOL
Halo Shampoo Glorifies as it Cleans
Wildroot
Cream-Oil
HAIR DRESSING
PENETRATING LANOLIN FORMULA
Wildroot
Cream-Oil
HAIR DRESSING
PENETRATING LANOLIN FORMULA
Wildroot

Background for Packaging

this year, as against the comparable quarter in 1959, was reported at a recent Chicago meeting of the *Aluminum Foil Container Mfrs. Assn.* Actually, sales of aluminum foil containers have doubled in the last four years, due to the spectacular growth of prepared convenience foods.

Hints of further developments in polyolefin plastics—beyond the presently important polyethylene and the upcoming polypropylene—were contained in the address by *William Naden*, executive vice president, *Humble Oil Co.*, opening Humble's new polypropylene plant at Baytown, Tex. Officially, the company calls it a *polyolefin* unit because, said Mr. Naden. "We expect it, at some future date, to be turning out any number of other tough and versatile petroleum-based plastics. These will constitute what might come to be known as petro-plastics." Hence, a new chemical family for packagers to ponder.

Foamed polystyrene may be in broad demand as a soluble package for such dry-cleaning compounds as detergents, filter aids, sizings and mothproofing chemicals if present plans for coin-operated dry-cleaning establishments materialize. While no commercial installations of these new counterparts to the widespread Laundromat are yet in operation, both *Borg-Warner Corp.* and *RCA-Whirlpool Corp.* are reported to have "coinop" units well under development. These machines will undoubtedly require special unit packaging of the various chemicals now sold in institutional-sized containers to retail dry cleaners. Foamed polystyrene dissolves in perchlorethylene (a solvent in general use for dry cleaning), does not affect the cleaning process and is already employed for activated carbon used by the dry-cleaning industry.

[*Continued from page 41*]

Convenience products have tapped little more than half of their potential market, a new study indicates. Of all items surveyed by *Food Field Reporter*, consumers in 1958 spent almost $2¾ billion for those with built-in conveniences. But if all such products had been bought in convenience form only, the expenditure would have passed $4 billion. The study also shows that convenience costs consumers 51.2% more on all of the products that were investigated.

Big and growing market for packaged goods is the college campus. College students, with 37% more to spend than non-college youngsters, laid out $653 million for all goods and services in a recent 12-month period, according to a study by *Batten, Barton, Durstine & Osborn*. Not only will they have more to spend after graduation than others in their age groups, but the size of the college market—now almost 3¼ million students—is expected to double by 1970.

Food for thought: "It is the responsibility of the competent designer, exercising good taste, to develop good package design. It is the responsibility of the competent design researcher to predetermine consumer sales appeal. If the designer is, by lack of qualifications, unable to develop and sell design of a high professional calibre, he may contribute to the parade of ineffectual similarity on supermarket shelves. In all fairness to the researcher, it is not his fault if the best of three mediocre designs receives the best report."—*Jack Roberts*, Art Associates, Ltd., Toronto, in TCF of Canada's "Packaging Strategy."

Biggest percentage gain in metal-can use in 1959 was for soft drinks, says the *Department of Commerce*. Although still a small part of total metal-can volume (49,000 tons of steel compared with 1.5 million tons for fruits and vegetables), soft drinks accounted for 34% more steel use than in 1958. Brewers increased their volume in cans 9% (second in total use to fruits and vegetables) and meat and poultry packers, almost 7.5%.

From Our "Ancient Order of No Men" Collection

righteously resolute, Jack La Toure

DOUBTED THE FACT THAT HE COULD AFFORD GRAVURE!

Jack LaToure is but another example of total obsolescence. He doubted that the automobile was here to stay; pooh-poohed "raddio"— and didn't even know what rotogravure printing was, let alone, was it affordable. But despite Jack and his long-gone contemporaries, packaging has progressed on all counts; and you, knowledgeable reader, are among the many reasons.

However, in the remote event that you do not know about Kehr's Rotogravure — and how it adds a life-like image to your package and how its cost is negligible compared to your increased sales, we invite you to invite us to come and see you about it — complete with samples, examples and prices. In fact, it takes but a letter or a telephone call to glean all this information. Why not tell your secretary to get us on-the-run at once!

America's Fastest Growing Flexible Packaging Manufacturer

Kehr PRODUCTS COMPANY

535 Davisville Road, Willow Grove, Pa.
OLdfield 9-6900

Designers and Manufacturers of: Bags and Rolls from Flexible Films, Foils, Papers, and Laminates printed by the Flexographic or Rotogravure Processes.

WRITE TODAY FOR *New* KEHR PLANT BROCHURE

SEAGRAM'S "7" OVER-WRAP

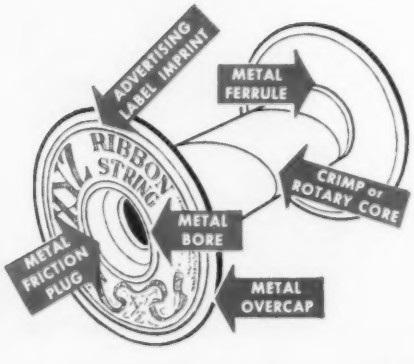
5-color Kehr gravure, reverse printed on 450K202 Cellophane.

"PRETZELETTE" PACKAGE

5-color Kehr gravure, reverse printed on 300MSD54 Cellophane.

SMOOTH RUNNING SPOOLS *reduce* SALES FRICTION...

IT'S THOSE "SMALL" CONSTRUCTION FEATURES THAT MAKE THE BIG DIFFERENCE . . .



R. C. Can Company offers a complete line of fibre spools with special construction features for spooling ribbons, package ties, tape, rubber thread, extruded plastic, braid, wire solder, weatherstripping, rubber hosing, surgical tubing, shoe findings, etc.

Made to special dimensions and to these stock dimensions:

Heads — plain fibre 2½" to 13¼" diameter; metal reinforced 3½"-4"-5"-6"; crimp type core 1¼" and 2¼" I.D.; rotary type core 1$^{3}/_{32}$" and 1¼" I.D. with lengths from 2" to 12"; metal plugs with various bore sizes.

Write for — FREE — illustrated brochure.

R·C· CAN COMPANY

Manufacturers: fibre cans, tubes, spools and cores

R.C.CAN CO. THE STAMP OF QUALITY ST. LOUIS, MO. ®

Main Office & Factory: 9430 Page Ave., St. Louis 14, Mo.

Branch Factories at: Arlington, Texas; Rittman, Ohio; Turner, Kansas; Hawthorne, Calif.; Elk Grove, Illinois

ATLANTA 6, GA.—L. C. Morris Co., P.O. Box 8042 Station F., 1156 Dalon Dr., N.E.
BOSTON 10, MASS.—Robbins Paper Co., 263 Summer St.
CHICAGO 51, ILL.—Joe Rovin, R. C. Can Co., 4806 W. Chicago Ave.
CINCINNATI 2, OHIO—A. J. Harris, 307 E. 4th St., Rm. 426
ELK GROVE, ILL.—(Chicago suburb) R. C. Can & Tube Co., 2000 Pratt Blvd.
INDIANAPOLIS 20, IND.—John C. Heim, 1500 E. 77th St., (Mail Address, P.O. Box 6043)
LOS ANGELES 43, CALIF.—Can Supply Co., 4429 Crenshaw Blvd.
MEMPHIS 3, TENN.—S. W. Scott & Son, 608 McCall Bldg.
MILWAUKEE, WISC.—National Paper, Can & Tube Co., 401 S. 7th Lane
MINNEAPOLIS 1, MINN.—W. L. Bennett, 126 S. Third St.
NEW ORLEANS 12, LA.—C. E. Dobson, 1003 Carondelet Bldg.
NEW YORK CITY, N. Y.—R. C. Can Co., 225 W. 34th St.
ST. PETERSBURG, FLA.—J. H. Mackensen, Bay Pines Trailer Park, 10005 Bay Pines Blvd.

Johnny Unitas demonstrates newest H&W high strength-packaging paper . . .

EXPANDA-KRAFT

THE GREAT NEW NAME IN EXTENSIBLE KRAFT

THIS AD IS PRINTED ON EXPANDA-KRAFT WHITE

You can also buy Expanda-Kraft
in Semi-Bleached or Natural. See how nicely it prints on
high-speed presses. Visualize the attractiveness of Expanda-Kraft packaging.
Now, consider how well this tough, rigid paper will perform on converting equipment . . .

EXPANDA-KRAFT

DEFIES SHOCK!

The bullet passes of Johnny Unitas have the terrific impact to rip through regular kraft (above), yet, thrown at the same speed, they bounce off Expanda-Kraft because of its greater resiliency (left). Johnny Unitas, all-pro quarterback of the Baltimore Colts, demonstrated the toughness of Expanda-Kraft at the National Packaging Show in Atlantic City. Each target consisted of four plies of 50-lb. basis weight stock. Time after time, in standard drop tests, bags made of Expanda-Kraft have proved their superior strength.

Expanda-Kraft is the winner in impact test against regular kraft. Bags of each type were filled with sand, suspended on long ropes, sent hurtling toward each other. Regular kraft bag, photographed at high-speed as it burst, had same ply construction as Expanda-Kraft bag.

EXPANDA-KRAFT REDUCES BREAKAGE It has *two-way stretch*, soaks up shocks that would break ordinary kraft of equal basis weight.

EXPANDA-KRAFT WITHSTANDS MOISTURE *High humidity* and *weathering* have little effect on Expanda-Kraft! It retains its full toughness and firmness.

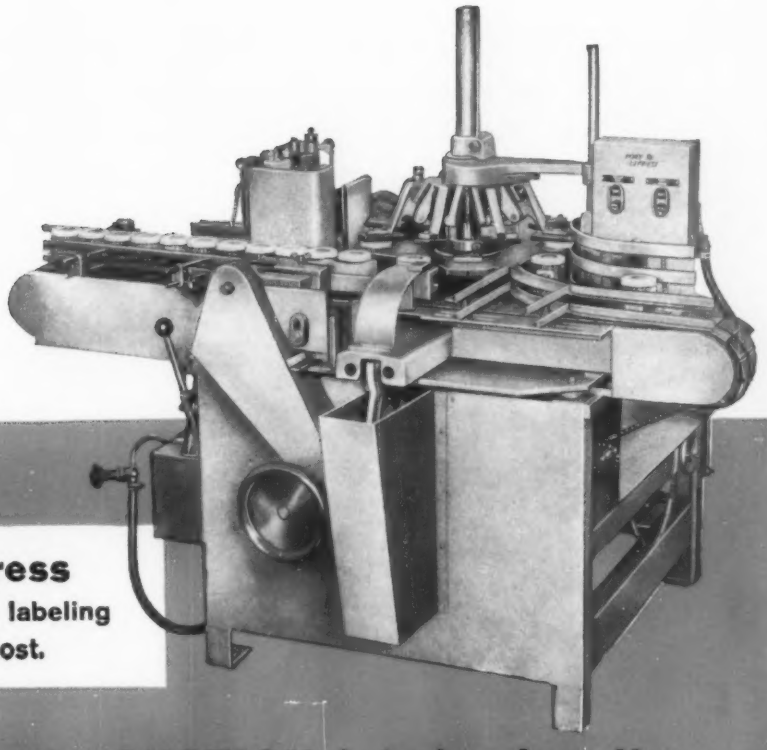
EXPANDA-KRAFT PRINTS SHARP This advertisement is printed on 50-lb. Expanda-Kraft White from a regular production run. Other shades print as well to enhance sales appeal.

EXPANDA-KRAFT BAGS STACK SECURELY They have a coefficient of friction higher than regular kraft bags, stack with less risk of slippage, stay in place while in transit.

EXPANDA-KRAFT BAGS FILL FAST They meet required porosity standards, yet are rigid enough to stand up to high speeds on the filling line.

CONTACT YOUR SUPPLIER for information on the use of Expanda-Kraft for bags, wrappers, laminations, protective packaging or any use where outstanding strength is important. Expanda-Kraft is made by a new roll-crepe process. It's available in 40, 50, 60, 70 and 80-lb. basis weights; White, Semi-bleached or Natural. *Hollingsworth & Whitney, Division of Scott Paper Company, Dept. E, Chester, Pa.*

HOLLINGSWORTH & WHITNEY DIVISION OF
SCOTT PAPER COMPANY



Pony Express
delivers precision labeling at low unit cost.

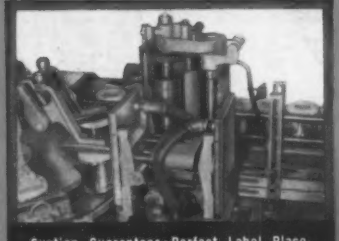
Fully automatic SUCTION labeler handles any shape label and container

Your first and immediate saving with the Pony Express is that you eliminate the operator. Compared with semi-automatic labeling, you increase production as much as 50 per cent and *at one and the same time* you both reduce cost and improve package appearance.

The exclusive suction-principle operation of the Pony Express removes labels from hopper without assistance from the glue. Glue is used only for adhering labels to containers. Label registration is accurate to within 1/64" regardless of container's shape.

The Pony Express has a micro-controlled glue system that coats each label with a fine, even film of adhesive. This over-all gluing means containers are labeled with edges down tight. Glue seepage, loose-corners, hand retouching are eliminated entirely.

The Pony Express can be used for short runs as well as for volume production. Change-over from one job to the next takes only 25 minutes for both label and container. On large runs, the non-stop label loading feature permits longer, uninterrupted production. Write for new bulletin.



Suction Guarantees Perfect Label Placement. Label is controlled by the positive holding force of suction until the moment it is adhered to the container. It cannot shift in transit. Perfect registration is absolutely automatic

Labels tapered bottles at full speed

After code-numbering on a NJM Code-O-Matic,® Riders Ltd., N. Hollywood, Calif. labels these tapered bottles with accurate register, at full speed, on their Pony Express.

MAKERS OF THE PONY LABELRITE · NJM · NEW JERSEY MACHINE CORP

NEW JERSEY MACHINE CORPORATION
AUTOMATIC LABELING • CARTONING • PAPER BOX MACHINERY

FACTORY SALES AND SERVICE BRANCHES | 325 W. HURON ST., CHICAGO 10, ILL. 2500 W. 6th ST., LOS ANGELES 57, CALIF.

MAIN OFFICE & PLANT • 16th ST. & WILLOW AVENUE, HOBOKEN, N. J.

NEW AND BRILLIANT FROM IPI

FAST SETTING
QUICK DRYING

Speed King
CARTON INKS

FOR LETTERPRESS AND OFFSET

The quick set, fast dry and high gloss of IPI's revolutionary Speed King inks for general commercial use are now available to package printers!

Speed King Carton inks set so fast—even on patent coated boards—that offset rarely is a problem. This means higher press loads without racking, less handling, and considerably less spray than needed for conventional gloss carton inks.

Speed King's gloss on clay coated and on cast coated stocks such as LUSTERKOTE, KROMEKOTE, ULTRA-GLOSS, etc., rivals that of the finest gloss carton ink. And because it's a more *uniform* gloss, even lower cost stocks print better!

Speed King's split-second set and amazing dry (as little as 2 hours) mean faster processing of the printed board—with obvious advantages to the carton printer.

Speed King is stable on the press; halftones don't muddy up, small type stays open.

These wonderful new inks—both letterpress and offset—are now available from your nearest IPI branch, in a wide range of popular carton colors.

Try them on a really tough job—and see the definite difference!

IPI, IC and Speed King are trademarks of Interchemical Corporation

ipi

INTERCHEMICAL • PRINTING INK
CORPORATION DIVISION

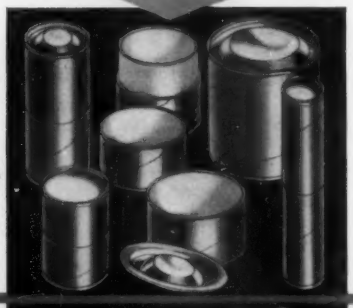
EXECUTIVE OFFICES 67 WEST 44th STREET, NEW YORK 36, N. Y.

IC

Examples of Cleveland Container Packaging...

Designed to Specific Requirements!

Spare Parts Packaging

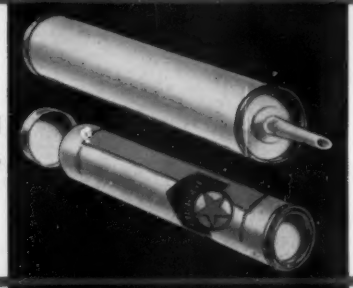


Fibre telescope and single body containers, which conform with military and civilian specifications, ensure maximum protection of contents. Tooling for more than 100 diameters . . . plus conveniently located plants . . . give both low unit cost and prompt delivery for your spare parts packaging.

Pump Guns

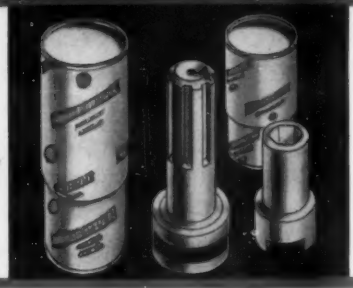
Bellows-type metal end containers have many uses. Inexpensive self-contained units are popular as spray guns for dry chemicals, also as containers and pumps for toy balloons. A wide selection of foil or paper wrappers add colorful merchandising appeal to many products.

Grease & Caulking Cartridges



Designed for exceptional rigidity and strength, they can "take" rough handling without denting or damage. Greaseproof liner prevents leakage, and a special plunger reduces overflow. Gun pressure automatically breaks seal. Adaptable to many semi-solid products, these cartridges are economical in large and small quantities.

V. P. I. Containers



Containers with liners treated with Vapor Phase Inhibitor are especially designed to protect precision parts from rust and corrosion. The ready-clean availability of parts through the elimination of heavy oils and greases . . . and the container re-use . . . are among the money-saving factors. Made in a wide range of sizes.

Investigate the complete line of Cleveland Containers. Write for our latest packaging brochure.

THE

CLEVELAND CONTAINER

COMPANY

6201 BARBERTON AVE. • CLEVELAND 2, OHIO

ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS

SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

CLEVELAND CONTAINER CANADA, LIMITED

Plants & Sales Offices: Toronto & Prescott, Ont., Sales Office: Montreal

Plants and Sales Offices:
Cleveland
Detroit
Chicago
Memphis
Los Angeles
Plymouth, Wis.
Jamesburgh, N. J.
Fair Lawn, N. J.

Sales Offices:
New York City
Washington, D.C.
Rochester, N. Y.
West Hartford, Conn.
•
Abrasive Division at Cleveland

Label changes

without printing new labels

Availability of supplies and fluctuating prices often clutter up stockrooms with obsolete pre-printed packaging materials. Thousands of firms have been able to avoid this all-too-common waste by imprinting prices and mandatory data on labels or small cartons as they are needed—with a Tickometer.

- A few minutes is usually sufficient to imprint labels and wrappers needed for a day's production. The Tickometer will imprint specifications, weights, colors, sizes, serial numbers, codes, etc., on most weights and finishes of paper and light board in sizes from 1 by 2 up to 15 by 15 inches—from 400 to 1,000 a minute.
- It can save time and work in marking, stamping, endorsing, dating or canceling forms, checks, coupons, tags, tickets, cards, etc. It also counts—*is so accurate that banks even use it to count currency.* Can be set for a predetermined count, to give partial amounts or totals, or equipped for consecutive numbering.
- Feeds and stacks automatically, is easy to operate, can be used by anybody. May be rented or bought, with Pitney-Bowes service always available from 320 points.
- Call the nearest Pitney-Bowes office for a demonstration. Or send coupon for free illustrated booklet and case studies.

Model 4800 Package Imprinter

Imprints folding cartons, containers, bags, etc. up to 7,500 an hour, as needed—reducing inventories and waste. No tools required, can be operated by anybody. Ask for a demonstration, or send coupon.

Pitney-Bowes

TICKOMETER

Imprinting & Counting Machine

Made by the originator of the postage meter . . . 139 offices in U.S. and Canada.

PITNEY-BOWES, INC.
4836 Walnut Street
Stamford, Conn.

Send free illustrated booklet and case studies on:
☐ *Tickometer* ☐ *Package Imprinter*

Name _____

Address _____

Whatever it takes

to catch her eye

MARATHON has the answer

As she shops in her favorite store, competition is keen to make her pause, pick up and purchase a variety of foods. No one knows this better than Marathon. As America's leading supplier of food packaging, Marathon has no peer in providing cartons and flexible packages that keep products high in the public eye.

Moving merchandise by package *appearance* is not the *only* consideration at Marathon, however. Materials . . . whether paper, paperboard, films, or foils . . . must always lend themselves to overall profitable packaging operations—from forming through filling to front-line selling.

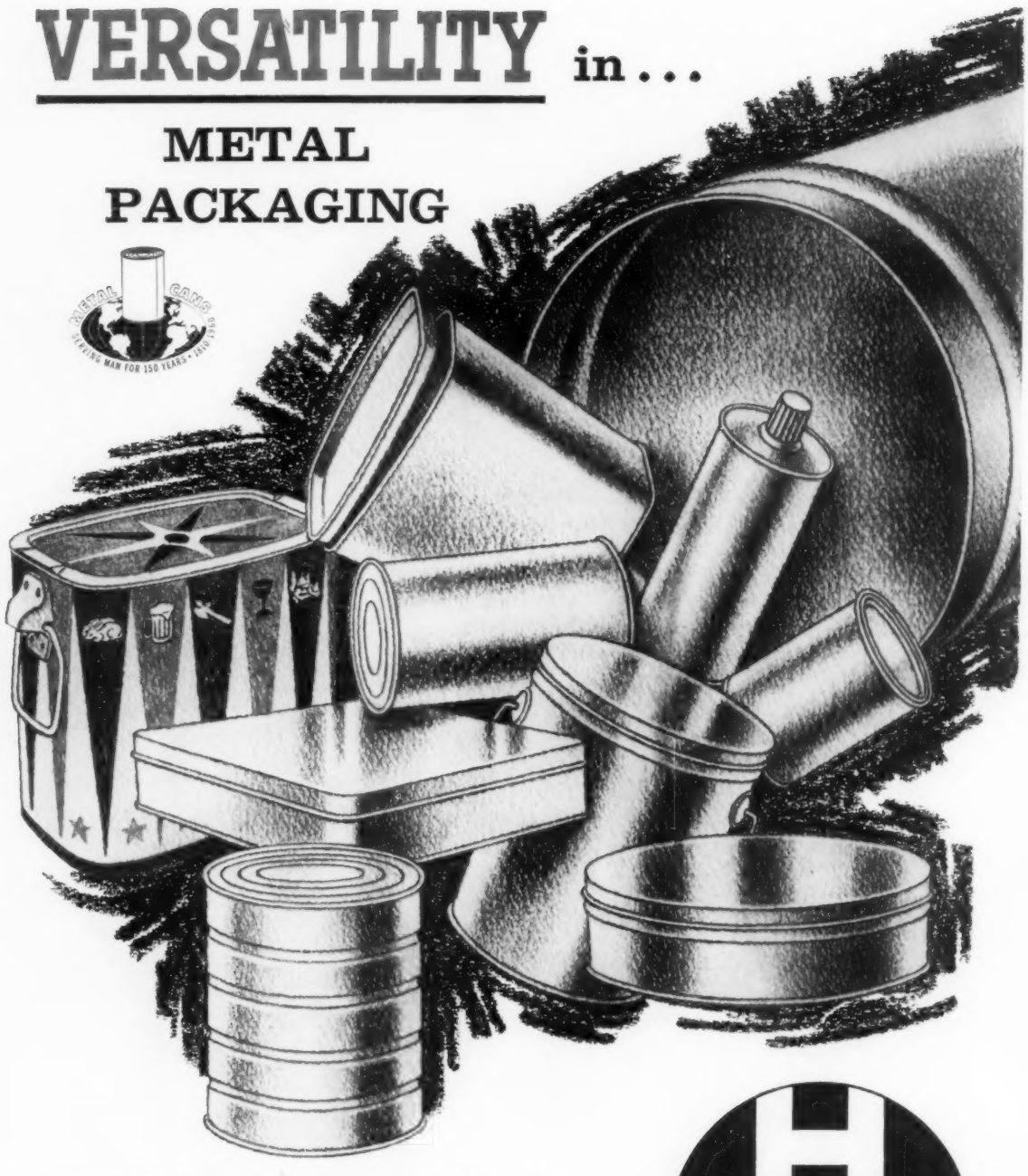
Here's a good rule of thumb for *any* and *every* packaging problem: whether the primary concern is merchandising, materials or machinery, Marathon has the answer. Marathon, A Division of American Can Company, Menasha, Wisconsin.

For packaging . . . and ideas . . .

you can't beat marathon

VERSATILITY in . . .

METAL PACKAGING



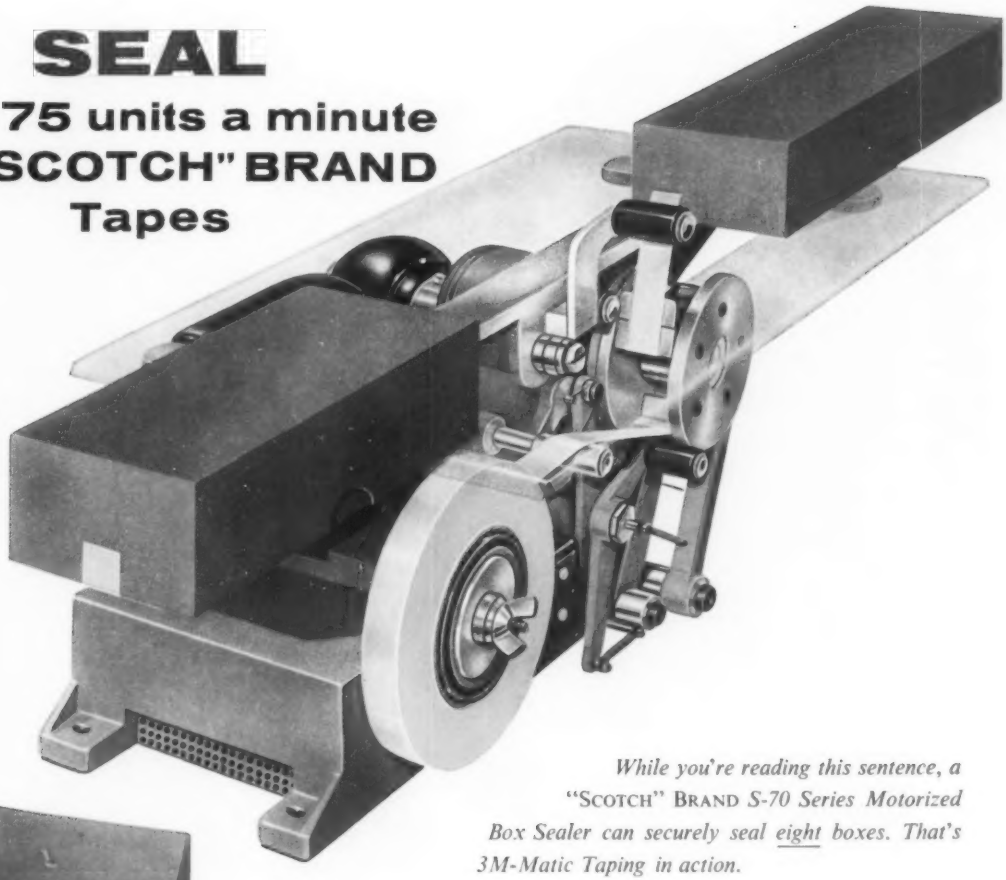
If your product goes in a metal container then Heekin can probably make that container . . . and, make it better. Heekin's versatility in metal packaging is outstanding in the canning industry. Do what thousands of manufacturers do . . . put your product in a HEEKIN CAN. Call Heekin today.

HEEKIN
Product Planned
CANS

THE HEEKIN CAN CO. *PLANTS IN OHIO, TENNESSEE & ARKANSAS—SALES OFFICES; CINCINNATI, OHIO; SPRINGDALE, ARKANSAS*

SEAL

up to 75 units a minute with "SCOTCH" BRAND Tapes



While you're reading this sentence, a "SCOTCH" BRAND S-70 Series Motorized Box Sealer can securely seal eight boxes. That's 3M-Matic Taping in action.

Motor driven taping head applies right-angle clips of "SCOTCH" BRAND Tape for sure-holding closure. Seals tuck-in flap or full-telescope boxes, quickly, attractively. Tapes are clean running, stick tightly, and are supplied in a rainbow of vivid colors.

See how a "SCOTCH" BRAND Motorized Box Sealer can speed up your package-sealing operation. Do a better job of holding without messy residue. Save you time and money too.

In addition, "SCOTCH" BRAND Manual Box Sealers are also available, as well as heavy duty packaging Sealers adjustable up to 10″ in length.

What's your sealing problem? Small boxes . . . medium boxes . . . large boxes? Chances are your 3M Representative can solve it for you. Ask your local "SCOTCH" BRAND Tape Distributor for more information or write: 3M Co., 900 Bush Ave., St. Paul 6, Minnesota.

When tape costs so little, why take less than "SCOTCH" BRAND?

Do they buy... or just pass by?

Your brand's chances are better in a Duraglas® "salespackage"

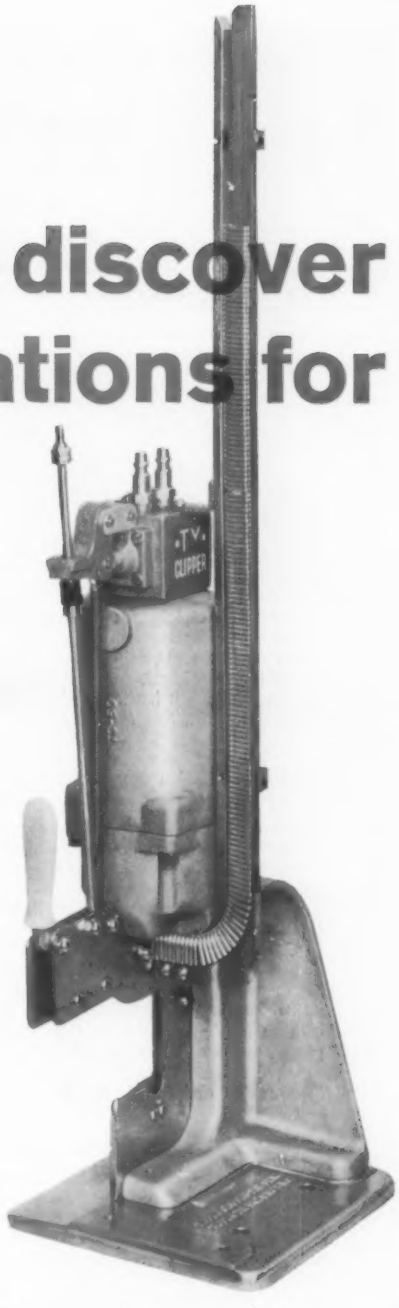
Often, choice of brand is switched at the last instant—*when the customer compares packages at the market place.* Because we work at it constantly, we at Owens-Illinois think we know a lot about how to design packages which *sell.* A Duraglas "salespackage" attractively combines container, closure and label.

DURAGLAS CONTAINERS
AN (OI) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO
PACIFIC COAST HEADQUARTERS • SAN FRANCISCO

NOW packagers discover many new applications for

Versatile *Tipper Clipper



More and more, wherever plastic bags or casings are used, packagers in widely diverse industries are discovering these versatile machines are ideally suited to their operation—to provide speed and economy, increase profits. Tipper Clipper and Tipperette are the ONLY automatic tyers specially designed for applying tight-seal aluminum clips on all types of Natural and Artificial Casings and Bags containing anything packed in bulk. If you are a packager of anything, from foods—to hardware; from toys and novelties...to drugs and sundries, then you too will want to consider using Tipper Clipper or Tipperette for converting your long, tying process into a quick, profitable procedure. Other machines available for tying all size poly and other type bags.

THESE ARE JUST A FEW APPLICATIONS:

FOODS: Meats, dairy products, poultry.

PRODUCE: Fruits, vegetables.

BAKERY PRODUCTS: Biscuits and crackers.

DRUGS: Proprietary, ethical.

AGRICULTURAL: Seeds, grain, soil additives, fertilizers, germicides.

SUNDRIES: Toiletries, tobacco.

HARDWARE: Tools, accessories, machine parts.

TOYS—NOVELTIES: Stuffed animals.

MULTI-WALL BAGS AND DRUM LINERS

*Patented: U.S.A.—Canada

"THERE'S A CLIP FOR EVERY PRODUCT"

TIPPER TIE, INC. • 2165 MORRIS AVENUE, UNION, N.J. • MUrdock 8-8988

Equipment & Materials

End-loading, top-unloading shipper

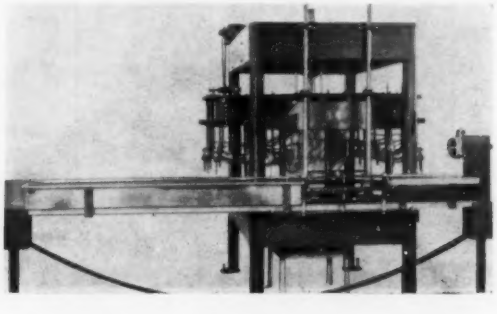
New from Fibreboard Paper Products is a corrugated shipping container that is filled from the end, but opened from the top. Called Fibre Zip, it is designed especially for use by packagers of canned goods. Several advantages are offered by the container's tear-strip closure, the supplier points out. Because the closure portion extends only part way along the upper surface of the case, shippers retain sufficient rigidity for safe stacking even when some of the contents are removed. Closure's tuck-in glue flap offers secure reclosure. Opening directions are printed on the glue flap. Opening is effected by pulling the glue flap loose and tearing it back. *Fibreboard Paper Products Corp., 475 Brannan St., San Francisco 19.*

Variety of film bags

Swartz Mfg. Co. reports that its "CPC Process," in conjunction with custom-made equipment, imparts high-speed automation and versatility to the production of film bags. Tapered, shaped and miniature bags—made from such materials as polyethylene, polypropylene, vinyl, nylon and polyester—are offered by the supplier in sizes as small as ¼ in. wide by 1 in. long. Among the items available are 2-mil miniature bags, attached by perforations and supplied in rolls. Also offered are "shaped" form-fitting film bags, compartmented bags, snap pouches and twin packs, drawstring and zip-up bags and many disposable items. According to the supplier, seals formed in the bag-making process are strong, burstproof and air-tight. Bags can be supplied printed or unprinted. Details are available from *Swartz Mfg. Co., Dorchester, Mass.*

Versatile rotary liquid filler

A new high-speed rotary liquid filler from Laub Engineering can be fitted with 30 or 60 filling heads. The unit can accommodate a wide range of container sizes—from 2-oz. bottles to 2-gal. cans. Filling speed of up to 300 bottles per minute can be achieved on the 30-head model (600 per minute on the 60-head model), says the supplier. Product contact parts reportedly can be changed in minutes to eliminate cross contamination in shifting from one product to another. This feature, the company points out, means that a packager will need only one line for packaging a variety of liquid products. Other features cited for the new unit include: elimination of worm gears and timing stars, for greater machine economy; open construction, for easier maintenance, and rapid container-size and product changeover. For more detailed data on the new filler, contact *Laub Engineering Co., San Gabriel, Calif.*



Resin with high barrier properties

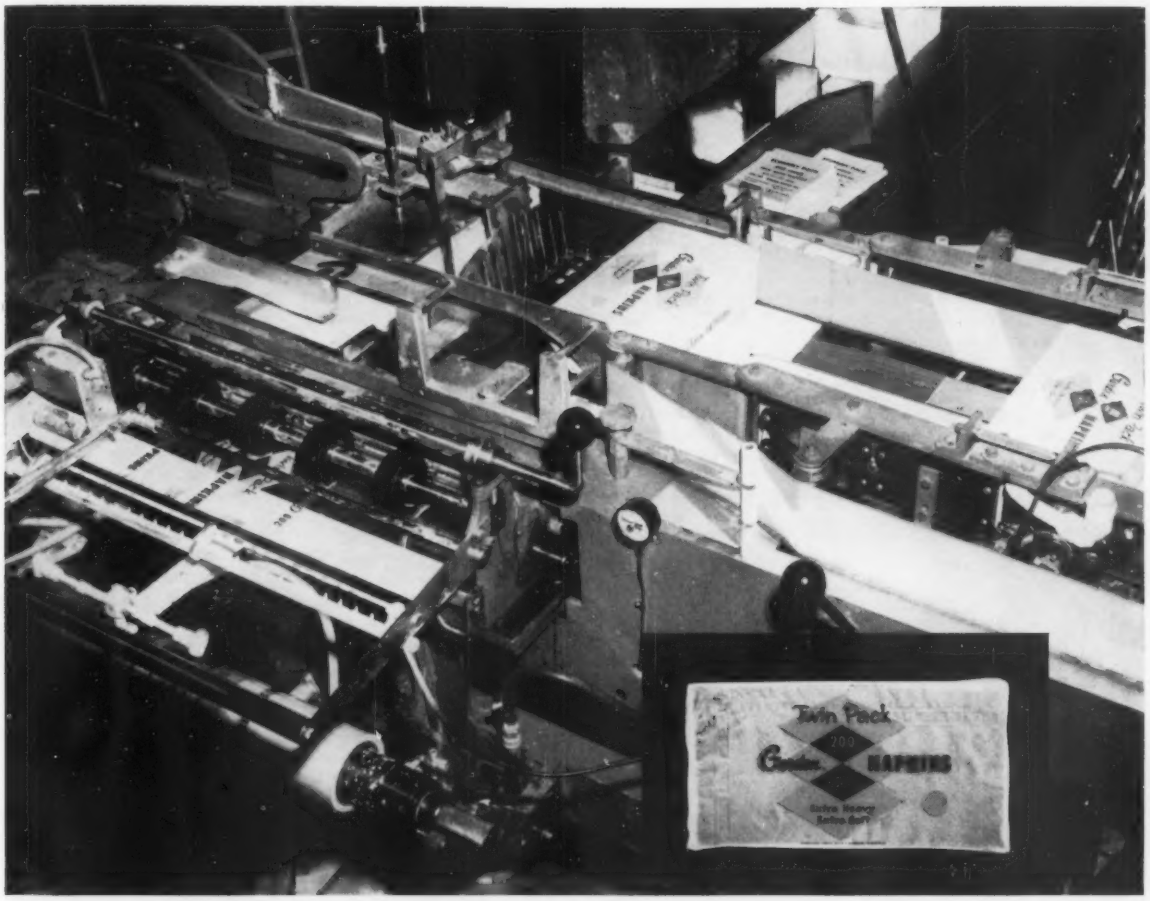
Suggested for use as a protective coating for various packaging materials is National Starch's new water-system, latex form of polyvinylidene-chloride resin. Called Resyn 3600, it is claimed to offer outstanding barrier properties. It reportedly can be applied at low cost to porous and nonporous substrates by standard high-speed coating equipment, thus eliminating the need for laminating or extrusion operations. Among the properties cited for the material are: excellent water resistance; nonflammability; very low water-vapor-transmission rate; almost total resistance to carbon dioxide, nitrogen, oxygen and other gases; abrasion resistance, and resistance to grease, oil, acids, alkalies and solvents. Suggested applications of the chemically inert material include the coating of corrugated liner board, multiwall-bag paper, bread wraps, barrier papers and bleached board. It can be applied for the packaging of a wide variety of products, including many foods, says the supplier. The company now is constructing a special facility at its Meredosia (Ill.) plant, scheduled to go on stream this fall, for production of the resin. Initial production, it is expected, will be 14,000,000 lbs. annually, with provision being made for expansion. *National Starch & Chemical Corp., 750 Third Ave., New York 17.*

Manual blister-packaging machine

A low-cost, manually operated blister-packaging machine has been put on the market by Erdco. The supplier reports that its Clear-Pak Manual, Model O4PC, is particularly useful in sample making and short-run plastic-blister sealing. Almost any small product can be packaged in one operation by a single operator at speeds of 10 per minute, says the company. Rotating-table action enables the machine to seal one package while another is being loaded. The new unit will seal blister packages up to 6 by 8 in., ranging in height up to 3 in. Simple modifications make the unit suitable for accommodating products up to 10 in. high, the manufacturer notes. The compact machine, equipped with air-pressure regulator and controls, weighs about 120 lbs. It will fit into a bench area of 18 by 25 in. *Erdco Engineering Corp., Addison, Ill.*

Low-cost paint-can filler

Specifically designed for small-batch paint-packaging operations is Elgin's Model R paint-can filler and power-roller capper. Claimed to be low in initial cost and operating cost, the unit can handle all paint-can sizes up to 1 gallon. On a



"When other costs went up—we offset them by bringing packaging costs down. We did it with VisQueen FILM film"

J. E. Asmuth, General Manager
Wisconsin Tissue Mills, Menasha, Wisconsin

"We hadn't been getting the savings you're *supposed* to get from automatic machinery. The downtime was too much. 'Milprint'—that's our supplier—said we should use VISQUEEN film.

"We did—and we've never seen anything like it. Breakage is almost nil now—and so's downtime. We get *performance.*

"VISQUEEN film is *uniform*—that's the reason. No thin, weak spots. It's wound *smooth*, too. Wrinkle-free. And it's *flat.* Just all around more *machinable.*

"We cut our packaging costs enough to offset the rise in other, non-packaging costs. That meant we could keep the price of our 'Twin Pack' garden napkins competitive—and avoid a profits squeeze we would have had otherwise.

"Our sales people say retailers are happier now, too. The film is clearer. It sparkles. Has a 'rich' feel to it. And because the packages are stronger, we have no more breakage trouble."

AUTOMATICALLY—IT'S 'VISQUEEN' FILM

You have better than a 50-50 chance of cutting *your* packaging costs with VISQUEEN film. Write now for information to the pioneer producers of polyethylene film for packaging.

Plastic Films
VISKING COMPANY
DIVISION OF UNION CARBIDE CORPORATION

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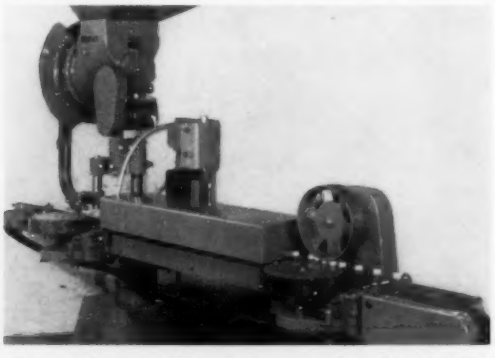
continuously moving platform conveyor, cans are automatically centered under the filling nozzle. On completion of the fill, cans are released by a cam-controlled stop finger. The operator then puts the cover in place and the filled can travels beneath the first of two power-driven rollers. The first roller, slightly higher than the second, starts the cover and expels excess air. The second roller seats the cover firmly in place. Cans cannot bulge out of shape in this operation, says the supplier. Rapid can-size change-over makes the unit ideal for short-run production, according to the manufacturer. *Elgin Mfg. Co., Elgin, Ill.*

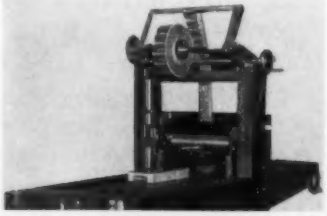
Unit applies captive polyethylene caps

Consolidated Packaging Machinery introduces a machine which automatically sorts and applies captive polyethylene caps to containers. Called the CaPeM, Model H-O-FT, it is reported to operate at a rate of 175 caps per minute. (With the addition of a larger sorting wheel, says the supplier, speeds up to 300 per minute can be achieved.) The sorting wheel (upper left in the accompanying illustration) on the Model H-O-FT is 24 in. in diameter. In machine operation, caps are sorted and fed down a chute for preliminary application to containers passing under the chute. The capped containers then travel through a rheostat-controlled heating tunnel, where the polyethylene caps are softened to simplify final press-on application. As the containers come out of the tunnel, they pass under a pressure wheel which seats the closures firmly in place. Heat inside the tunnel can be adjusted, depending on the speed at which the machine is operating. Both heat tunnel and pressure wheel can be adjusted up or down to accommodate containers of varying heights. *Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo 13.*



Automatic package banding

Schooler Mfg. introduces the Model B-2 Bandmaster, an automatic machine which applies printed bands to square or rectangular packages singly or in multiples. The bands can be used for promotional purposes, for economical multi-packing or for making a single sales unit of related products, the supplier notes. The new machine, which incorporates an automatic feeding attachment, is designed to accommodate a wide range of package sizes. Bands can be of paper, foil, film or other materials. Banding speeds are variable between 30 and 60 packages per minute, according to the company. Additional data on the machine are available from *Schooler Mfg. Co., Pacoima, Calif.*



Recycling film-bag heat sealer

An improved automatic recycling film-bag sealer has been placed on the market by Bag-O-Matic. The machine's outstanding new feature, says the supplier, is an automatic safety slip clutch which prevents locking and permits flap-over sealing of packages up to ⅜ in. thick, in addition to standard lip sealing. Made with a cast-aluminum frame, the lightweight, portable heat-sealing unit is offered in 12- and 18-in. widths. An adjustable automatic thermostat is said to eliminate guesswork so that inexperienced operators achieve top production speed. According to the company, up to 3,000 bags per hour can be sealed on the machine, whose sealing area accommodates two bags at a time. Bags up to 8 mils thick can be sealed. Further details are available from *Bag-O-Matic Packaging Equipment Co., 8350 Santa Monica Blvd., Los Angeles 46.*

Aerosol-packaging accessories

Two new hand-operated pressure-packaging accessories, for small-lot and laboratory operations, are offered by Aerosol Machinery. The supplier's Amco hand crimper is claimed to operate at twice the speed of conventional hand crimpers. An adjustable stop on the base positions the can for crimping. A single downward stroke of the unit's lever seats the aerosol valve and crimps the valve cap. Operator fatigue is lessened, says the company, by a geared mechanism which provides a short stroke of high leverage. The supplier's other new aerosol-packaging item is the Amco pressure burette, a tool for injecting propellant into aerosol cans. The portable unit incorporates a hand-operated injector valve with changeable adapters for use with most standard aerosol valves. The burette tube is encased in a clear plastic shield which is reported to be shatterproof, for operator protection. Further data are offered by the supplier. *Aerosol Machinery Co., Westbury, Long Island, N.Y.*

Low-cost container-molding method

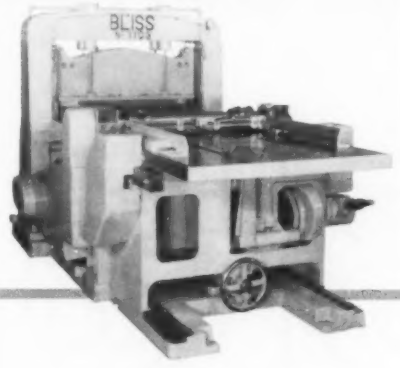
Best Mfg. Co. is offering for license a method for molding a lightweight, screw-capped plastic container on standard vacuum-molding machines. The container reportedly can be produced for one-third the cost of a comparable injection-molded container with snap-on lid. Containers can be molded in any desired thickness from any type of plastic normally used in vacuum forming. One-pint containers can be produced at speeds of 4,200 per hour, says the company. Both cap and container are formed on the same machine. Among the advantages listed for the screw-capped plastic container are: resistance to breakage; resistance to low temperature; positive, air-tight sealing; light shipping weight; re-use value; very low cost; easy resealability, and leakproofness, even during shipping and rough handling. The container is suggested for use in the packaging of a wide variety of products, including honey, shoe polish, dairy foods, frozen foods and peanut butter. After filling, a thermoplastic disk is heat sealed to the rim of the bottom of the container for added protection. For further information contact *Best Mfg. Co., Grand Junction, Colo.*

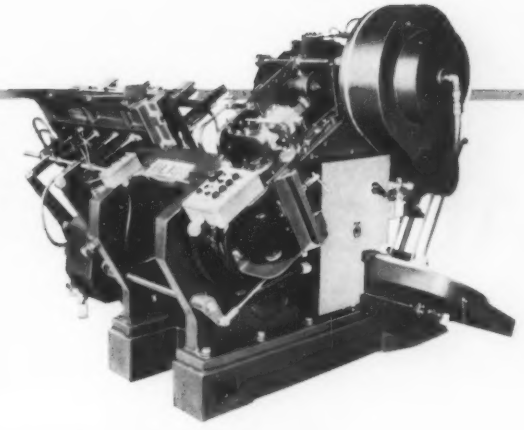
Inner polyethylene bread wrap

A bread-wrapping innovation which is claimed to more than double the protective qualities of standard waxed-paper wrappers has been developed by Western-Waxide. The extra freshness factor is achieved by an inner wrap of

[*Continued on page 186*]

New #1103 Automatic Scroll Shear offers highest production rate ever, shears both lithographed or plain sheets up to 36" square. There's no idle stroke.. every stroke is a cutting stroke. First table retracts to permit regrinding of cutters with a conventional cutter grinder without taking them off.

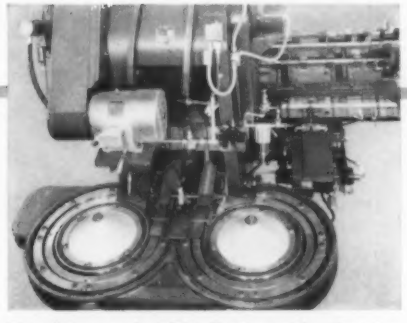




High speed #1831 Strip Feed Press blanks and forms can ends up to 404 diameter in double dies. Speeds range from 250 to 325 s.p.m. producing up to 600 or more ends a minute.

You can end CAN END production problems with these Bliss machines

(More Bliss end lines are in use than any other make)



Double end #20 Automatic Curler curls ends from 2" to 4¼" diameter; is designed for use with #1831 Strip Feed Press. Independently motor-driven, it does not rely on the press for its drive.

These machines incorporate many refinements in designs that have been thoroughly proved in production over the last four years. Write today for detailed information.

BLISS SINCE 1857 ®

E. W. BLISS COMPANY · Canton, Ohio

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PRESSES • ROLLING MILLS • ROLLS • DIE SETS • CONTAINER MACHINERY • CONTRACT MFG.

At last! A single polyethy

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It's Du Pont's exclusive 2-IN-1 polyethylene

Here's a major step forward in polyethylene film for bag packaging . . . Du Pont's exclusive new 2-in-1 polyethylene film. It's the only polyethylene film that combines *both* crystal clarity *and* toughness.

- How clear is it? Du Pont's new 2-in-1 polyethylene film is as clear as the clearest bag film you can buy.
- How tough is it? Du Pont's new 2-in-1 polyethylene film offers a toughness matched only by hazy, high-impact polyethylene.

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film designed specifically for bag packaging

This means you no longer have to sacrifice clarity for durability when specifying a polyethylene bag film!

Du Pont 2-in-1 polyethylene film is now available in printed roll stock and bags through Du Pont Authorized Converters . . . or plain roll stock from your Du Pont Representative. Call an Authorized Converter or Du Pont Representative for all the facts on this latest advance from Du Pont . . . leader in packaging film for 35 years. Du Pont Company, Film Dept., Wilmington 98, Del.

DU PONT
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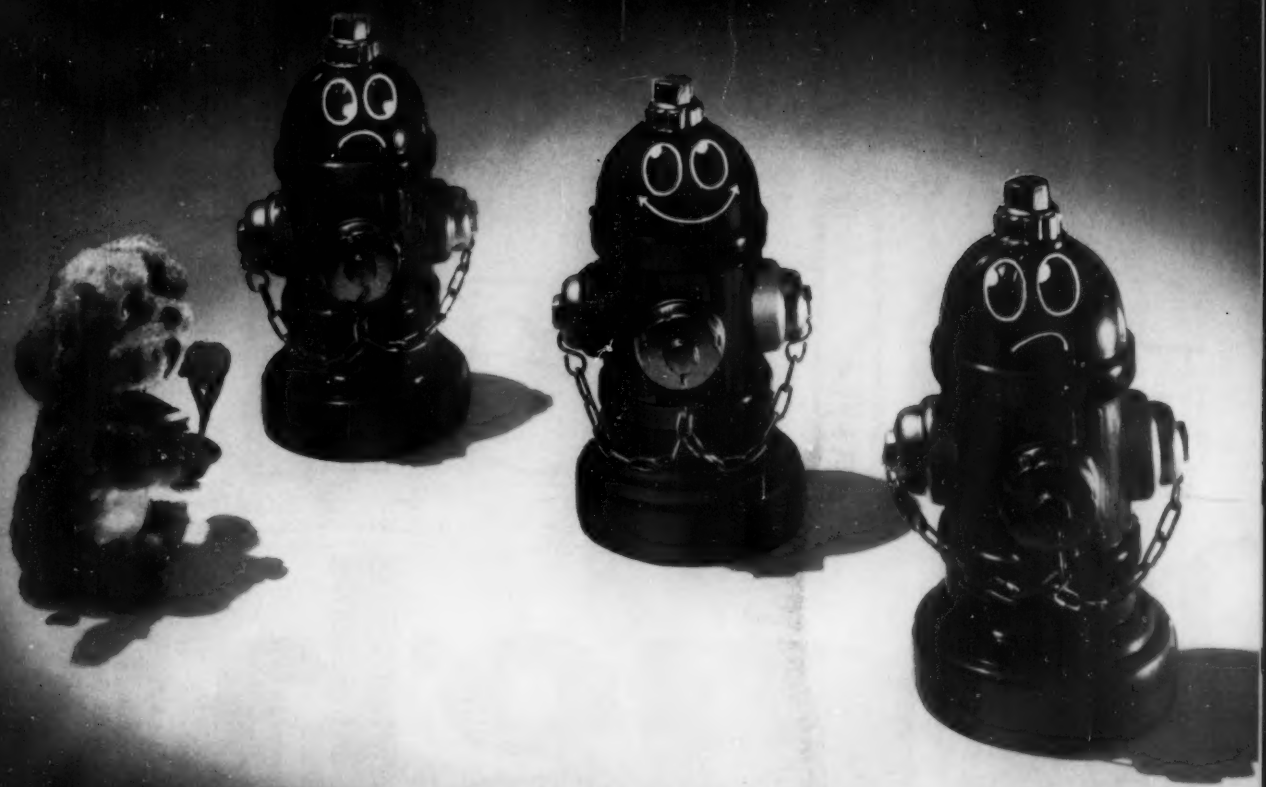
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

DU PONT polyethylene film

It's the Ink that attracts...



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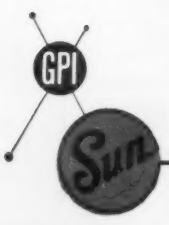
PRINTING INKS can help *pump* up the sales of your product, package or promotion. That's why it's so important to use the *right* printing inks—right in color, right in quality, right in cost and right in *performance*. Inks that are outstanding, both on the press and on the end product. Let GPI help you to attract and *hold* customers. Simply call or write.



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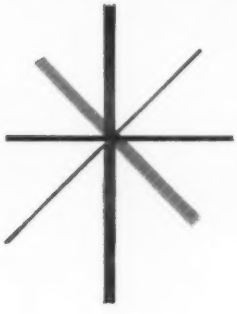

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THE BEST SALESMAN FOR CANDY IS CELLOPHANE

Candies, cookies, pretzels, you-name-it—you'll find that cellophane will move a product from the shelf into the home faster than any other packaging material. Why? Because only cellophane provides that crystal-clear transparency that shows a product at its selling best. Plain or printed, cellophane does the job. Call in an Olin Cellophane representative or converter today. P.S. Olin conducts an integrated advertising and merchandising program to help promote your products. So when you think of cellophane, think of Olin *first*. Olin CELLOPHANE

OLIN MATHIESON
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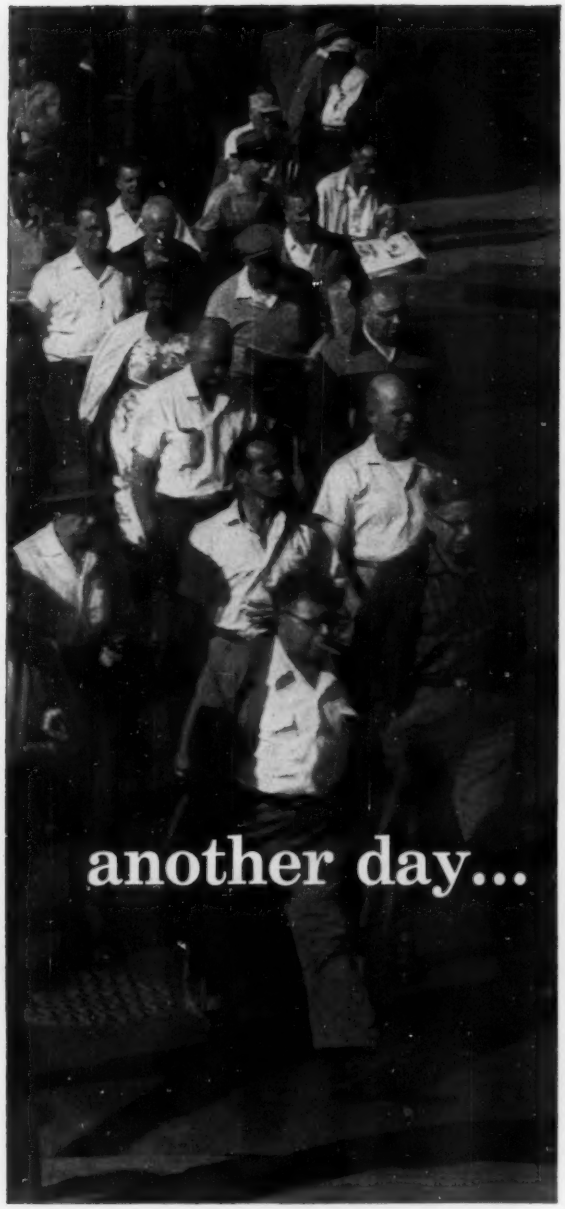
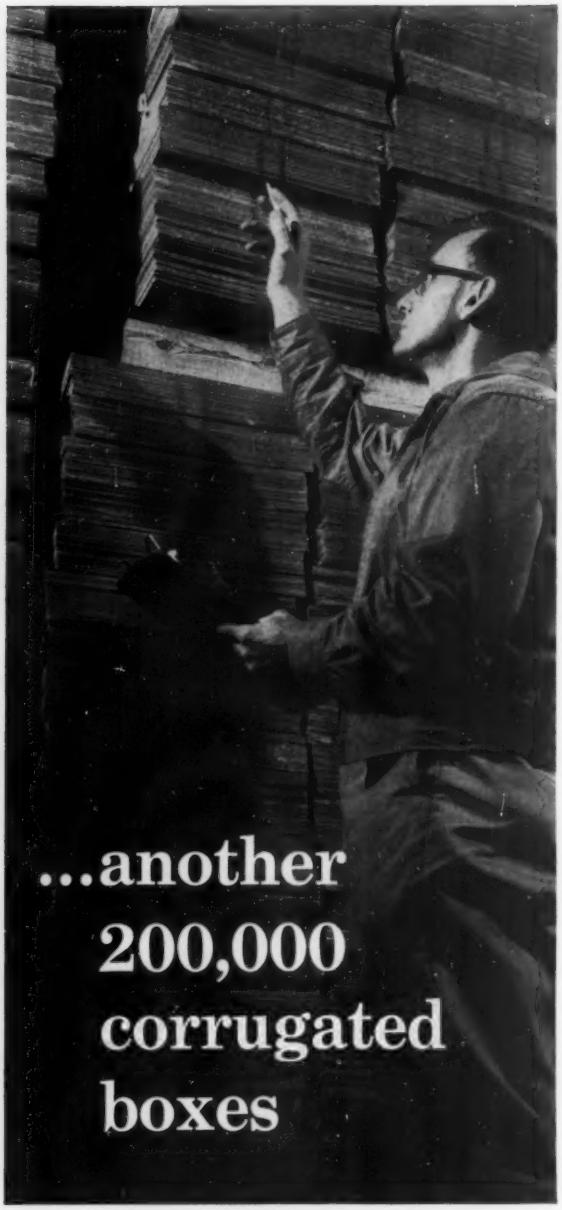
OTHER PACKAGING DIVISION PRODUCTS: CARTONS, CONTAINERS, BAGS, LIGHTWEIGHT PAPERS, WRAPPING TISSUES





In an eight-hour shift, Hinde & Dauch's Chicago plant (just one of seventeen) manufactures as many as 200,000 standard regular slotted boxes. This *volume capacity* is important to H & D customers. It assures them of a virtually limitless supply, a highly reliable source of the boxes they need for sustained production. After all, isn't this the kind of supplier support you'll be demanding during the competitive months to come?

Hinde & Dauch Division

West Virginia Pulp and Paper

HINDE & DAUCH DIVISION, WEST VIRGINIA PULP AND PAPER, SANDUSKY, OHIO • 17 PLANTS • 42 SALES OFFICES

Sounding Board

WE ASK THE READERS

Are sizes of your packages tending upward or downward?

William Schoenling, *Senior Vice President, Schoenling Brewing Co., Cincinnati:* The beer and ale industry probably cannot be pictured as having a trend in package size because of the nature of the product and because of Government regulation. In Ohio, the smallest beer container allowed by law is a 12-oz. size; therefore, it can decrease none in size. However, the law does not control ale bottle sizes in the same way and we have recently innovated a 7-oz.-size bottle. Previously the smallest bottle was the 12-oz. size. Other producers in other regions of the country have done the same. We would probably have done likewise with beer had it not been for Government regulation.

The reasons for the reduction of the ale bottle sizes from the 12- to 7-oz. size are the following:

First, we found in informal surveys that consumers, both men and women, desired smaller quantities of beer and ale, but especially ale. Perhaps this is due to a greater diet consciousness currently.

Secondly, we believed that a great demand for ale existed at the lower price level, about 25% less. The innovation was made about 14 months ago and it has been successful. Such changes cannot be made very frequently, of course, because of the high initial cost. No further reductions in size are now contemplated.

O. L. Moulthrop, *President, Western Frozen Foods Co., Inc., Watsonville, Calif.:* The trend is toward the small package, but I think it should be reversed. It seems to me we're losing out on a lot of potential consumption. Sure, the standard 10- and 12-oz. packages we've had for the last five or six years are all right for two people, but not big enough if you have a family of four or five—and there are a lot of families that size today. And the larger sizes of the institutional packages —2, 2½ or 3 lbs.—are too big.

What I think we need is a large, economy-size package, 18 or 20 oz. I'd simply double the thickness of the existing package, so there would be no problem, no loss of space, in the frozen-food cabinets in the markets. I know that's a problem in changing package sizes.

This larger package could be made cheaper to the housewife, quantity considered. And in the long run we'd get greater consumption of our vegetables.

There are sure to be changes in frozen-food packaging. There's a demand to fix packages so that the housewife can see what she's getting. Windows are out because it's so hard to make them watertight. Plastic would be perfect, but it's too expensive. Some day we may find a way to pack frozen foods in vacuum —it would be a great saving—but that's still ahead.

Another thing: We should have a package which will let the housewife remove half the contents and put the remainder back in the freezer without defrosting it. This isn't too hard with a flowing pack, like green peas, but we have no way to do it with, say, broccoli, especially if we get that large, economy package—and the sooner we get it, in my opinion, the better consumption totals we'll add up.

Albert Airosus
Owner
Easy Mark Ink Co.
Lowell, Mass.

I find that the size of my packages is going up. It is becoming more difficult to package a diversified line in the small sizes because such large commitments have to be made for the various product components. Staying in the larger size, despite some customer resistance and sacrifice, tends to keep the same dollar volume and less dead stock.

Mainly, the problem in changing to the larger size is customer habit—sometimes difficult to change.

Also, transportation charges have risen to the point where some customers prefer to buy the larger size to eliminate frequent re-ordering.

The exception to this is in the case of new products, where it is imperative to put up a small package to introduce the item to prospective customers.

We are selling some large sizes because competitors package similar products only in the small size.

Charles Ruttenberg, *Partner, American Textile Co., Pittsburgh:* Sizes of our packages are tending upward because of increased salability. The customer is more inclined to buy because he feels that he is getting more for his money. The larger the product quantity, the more the customer is attracted to see and handle the package—and, by handling, his interest is increased—he builds this interest up until he either buys or doesn't buy the product.

In our line of merchandise, the size of the package has increased in many cases, whereas the merchandise remains the same size. To illustrate our product or advertise it better, it is not folded as much as in our

previous packaging. An appliance cover or tablecloth, for example, has more sales appeal when there is more of the product to see in the polyethylene package than when it is in a smaller, more compact package—or one folded (appliance cover) many more times.

The increased sizes of packages will increase sales. Aside from the fact of having the customer feel that he is getting more for his money, the added advantage of having a larger polyethylene bag which he can use for some other purpose is an important feature and the feature gains value. Thus, as the size of the bag increases, the more the customer can store in it and there will be more ways in which she can utilize this plastic bag for re-use purposes in the future.

Arvind H. Trivedi
Production Manager
Allergan Corp.
Los Angeles, Calif.

The nature of our products and business demands that products be packed in varying sizes. As a result, we have been changing the packings from 5 cc. upwards to 4-oz. packages for some products.

Recently we have introduced 1-, 2- and 4-oz. packages that we did not have before.

We also might move upwards for bulk quantities—16 oz. or more—and also might even go to a lower than 5-cc. quantity in the near future.

The reasons for such changes are primarily: (1) use of small concentration of chemicals for a particular disease or condition, (2) bulk supply to cut down on too much paper work and re-ordering, (3) to stop re-infection by organisms due to repeated exposure.

John Graham, *Package Development Engineer, Schering Corp., Bloomfield, N. J.:* In the pharmaceutical industry, the tendency is toward both larger and smaller package sizes. When a new drug in tablet form is introduced, it is packaged in 30s, 50s or 100s. After general acceptance by the medical profession, the package size is increased to 1,000s and occasionally 5,000s or 10,000s. With oral liquids, the same philosophy applies; products are introduced as 4, 5 or 16 oz. and later sizes increase to one gallon.

With sterile preparations, the multiple-dose vial is used for packaging of injectable products and the standard glass bottle with drop fitment or plastic dropper bottles are used for eye preparations. The most recent tendency for injectables is the single-dose disposable syringe. This is particularly acceptable to hospitals, since no sterilization of the regular syringes is necessary. Work is also under way on a single-dose ophthalmic preparation in disposable packages.

Packaging of pharmaceuticals is moving toward more economical packages for the pharmacist on high-volume items and also for greater ease in application by the physician of sterile preparations.

Egon Marhoefer, *Vice President-General Manager, Bold Baking Corp., Pittsburgh:* Sizes of our packages are tending downward. This is a result of eliminating all the various sizes, which helps the customer to make a quick decision. We try to eliminate a decision on the part of the customer as to which size to buy.

This certainly has a good effect in the self-service market. Products purchased here are on spur-of-the-moment decisions and the small package increases our volume of business because (1) today families are smaller and (2) there is a lower price per unit.

Smaller packages make for a better display. You can develop more ideas and set up better displays with smaller packages. A display with smaller packages is much more appealing and inviting to the customer than a display with larger packages would be.

This cut-down in size does more to have the ordinary customer buy. The customer who is purchasing his needs on a budget cannot in many instances afford to buy a larger-size product at greater cost.

Finally, reducing the size of the product quantity cuts costs. Also, customers often purchase two or more of the product, thus increasing sales.

Daniel Gainey, *Lutz & Schramm, Inc., Pittsburgh:* Product quantities are going up! This is because customers are demanding more. They want products and packages that are larger in size. The customers feel that they are getting more for their money.

With the upsurge in business, customers expect to obtain more than they obtained last year or even months ago. With the trend today toward two-for-one sales, one-cent sales, economy-size packages, today's customer looks for the large package.

All of our products are bottled in glass jars. The glass house where we have our jars manufactured has worked to make our jars especially attractive and appealing to our customers. In many cases the product quantity is exactly the same, but with an attractive large glass jar it looks as though you are getting more than is actually contained in the jar.

All of this is brought to us from the glass manufacturer at the same cost.

Packages are improving day by day, relative to better sales appeal, reduced breakage, etc., but the big problem is to get packages to open easily. This is the key problem as I see it in packaging today.

John Schultheis, *Superintendent, United Craftsmen, Cincinnati:* The packaging we do is that of Christmas cards in cardboard boxes containing anywhere from 12 to 25 cards. The size and shape of the boxes depend entirely upon the size and shape of cards and upon the number of cards in a box. Therefore, the size and shape of the boxes change just as frequently as do the cards.

Because we distribute the cards through independent agents, primarily housewives, who sell to the same customers each year, for the most part, we find variety in the cards essential for active sales—variety not only in design, coloring and type of paper, but in size and shape. Some years the change in size and shape is only slight. For example, this [*Continued on page 234*]

Cigarette carton closing at P. Lorillard Company, Inc. where the advantages of Thermogrip adhesives were realized almost two years ago.

THERMOGRIP ADHESIVES

Speed Carton Closing 75%
Help Carton Opening

If you want to seal cartons faster, or open them easier, Thermogrip adhesive is your answer. In one plant alone, production from closing machines has been increased 75% and total factory cleaning time reduced from 14 to 3.4 hours per shift. Thermogrip adhesives permit a sealing rate of 2 cartons a second.

Thermogrip adhesive applied in ten ⅛″ dots along the flap keeps cigarette cartons closed during packing, transit, and handling. Because quick-setting Thermogrip does not penetrate the surface, cartons are easily opened for tax-stamp application without damaging the carton or the contents. Best of all, one three-pound reel of Thermogrip seals 59,300 cartons!

Thermogrip can be applied at top machine speeds in dots, dashes or continuous strip in a variety of widths on plain boards, waxed boards, porous paper, aluminum foil, polyethylene, and many other packaging materials.

If you are interested in clean, dry, high speed sealing, pick up your phone and call us right now or write explaining your carton sealing objectives.

Leading cigarette manufacturers are now using THERMOGRIP adhesives for better, faster closing and for reducing losses on ten pack cartons.

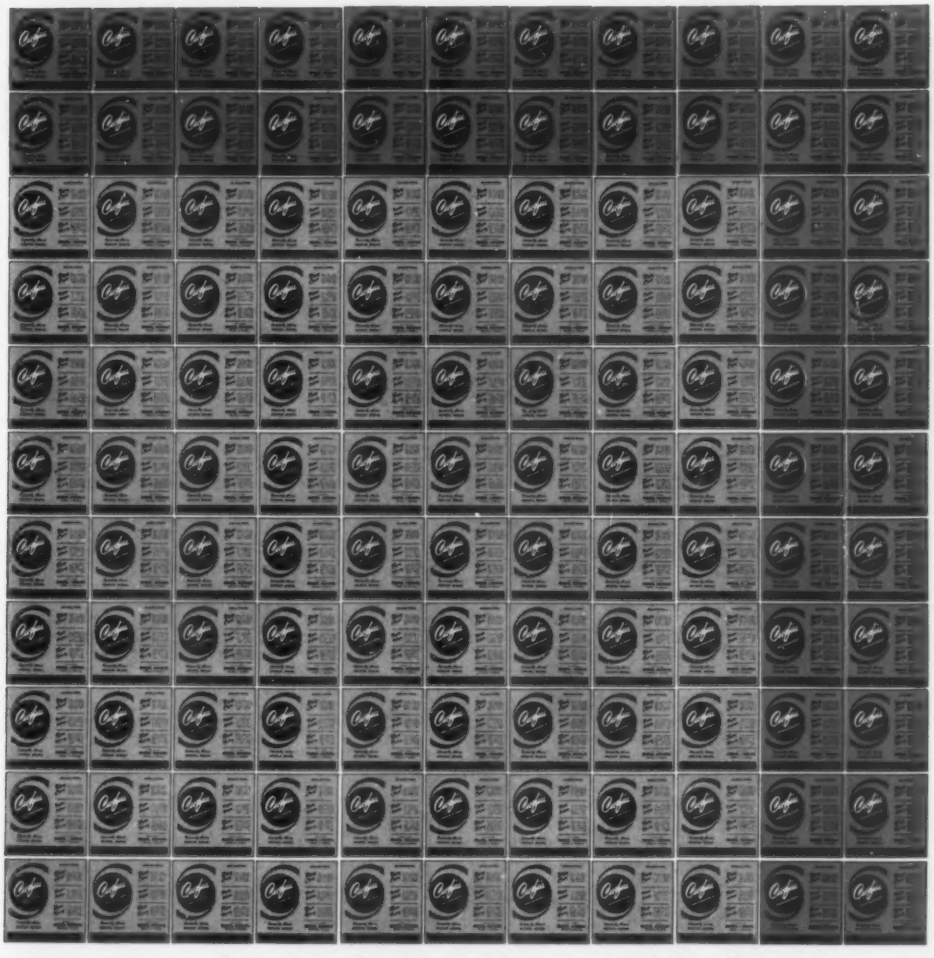
United

UNITED SHOE MACHINERY CORP.
140 Federal Street, Boston, Mass.
LIberty 2-9100

AVON'S BOUDOIR BEAUTY! Many leading cosmetic and toiletry manufacturers are discovering the *obvious* allure in Bradley-Sun packaging. The unique advantages in polyethylene containers are enhanced by unusual printing effects and, when desired, glass-like coatings. Why not 'see for yourself' how these unusual packages can stimulate your sales imagination. *Remember, the package is your product at the point-of-sale!*

Division of American Can Company, Hillside, New Jersey / Sun Tube of Canada, Ltd. Ottawa, Ontario

49% MORE LITHOGRAPHED CAN BODIES PER SHEET



with the new 44-inch Hamilton 502 Duplex Slitter

Now you can take advantage of *big* sheets of tinplate to slit maximum numbers of lithographed body blanks per sheet. At the same time you will cut down on scrap percentage and handling cost per thousand.

Your production of body blanks can increase nearly 50% in certain sizes with this slitter, the largest built.

This soundly engineered and constructed machine embodies the most recent developments in Hamilton's advanced can machinery line.

Some of its outstanding features

- Heavy construction of base and table to minimize vibration
- Drive gears housed in oiltight boxes
- All parts contacting tinplate chrome plated
- Handwheel control provides 32-inch table separation, easy access to first table cutters for grinding
- Precise registration of lithographed sheets through right and left-hand cam-actuated side gages; both single and 2-point gaging available
- Split-capped cutter shaft housings for easy removal of shaft assemblies
- Magnetic support rolls for first table

Another important feature is the fact that a new-design electric cutter grinder attachment and body blank stacking table, and automatic lubrication, are available.

Write for complete information

BALDWIN · LIMA · HAMILTON

Industrial Equipment Division · Philadelphia 42, Pa.

The case of the kumquat canner's confusion

FEARLESS FULLER: Are you familiar with lines, Miss Watson?

MISS WATSON: Well, I've listened to quite a few clever ones in my day.

FEARLESS FULLER: I happen to be talking about canning lines not men's lines.

MISS WATSON: I imagine this must have something to do with your latest case.

FEARLESS FULLER: Yes, it does. I call it The Case of the Kumquat Canner's Confusion.

MISS WATSON: The kum-what?

FEARLESS FULLER: Kumquat. It's a sort of citrus fruit.

MISS WATSON: Why, with a name like that it's no wonder he was confused. But what was his problem, Fearless?

FEARLESS FULLER: Oh, it varied. His main trouble was that he wasn't using Fuller adhesives. As a result, sometimes his labels wouldn't stick properly. Other times, his cases would pop open during shipment.

MISS WATSON: He was really becoming unglued, huh, Fearless?

FEARLESS FULLER: Yes, you might say at times he didn't know whether he was kuming or gluing.

MISS WATSON: I suppose happily about that time you entered the scene.

FEARLESS FULLER: That's right. Fortunately I was able to prescribe Fuller Adhesives to meet his every need. Fuller's 1303 for labeling and 176 for case sealing. Now his adhesive troubles are over and the case is solved.

MISS WATSON: Oh, Fearless, you're wonderful.

FEARLESS FULLER: Elementary, Miss Watson. A Fuller man always knows the solution to adhesive problems.

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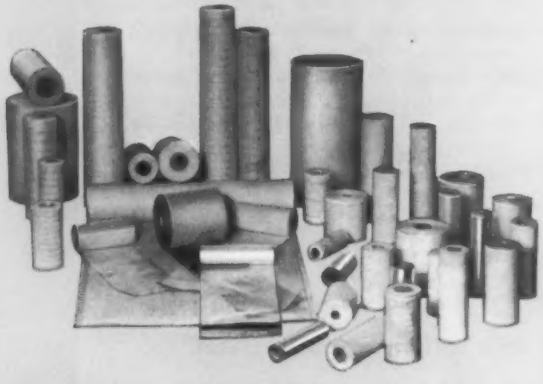

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World Report

Abstracts from foreign packaging magazines

SWEDEN

Vacuum packing in cartons

A Swedish system of vacuum packing in cartons has been introduced in Great Britain, according to *Packaging Review* (England). The system uses a special carton which consists basically of a normal glue-end carton with a flexible liner glued to the inside walls. The ends of the liner protrude beyond the ends of the carton so that they can be heat sealed. After filling and sealing, the heat-sealed ends are tucked in and the carton flaps glued and closed. In this form, without vacuum packing, the machine is widely used for many types of food products, including powdered and granulated goods, and frozen foods. When packing under vacuum, the top of the liner is partly heat sealed, leaving an unsealed portion to permit the air to be evacuated. The pack is then transferred to the vacuumizing chambers, arranged on the carousel principle. Vacuumizing is carried out in two stages. Prior to the first stage, a knife mechanism descends into the pack and separates the liner from the carton. This is done to eliminate collapse of the carton when normal pressures are exerted. The second-stage vacuum extracts remaining air and draws the top of the liner together above the contents, after which the liner is fully closed by heat sealing. An extraction efficiency of 97% is reported. Since the vacuum-packed bags are no longer attached by glue to the carton when received by the consumer, the system is suitable for boil-in-the-bag packaging. Both semi-automatic and fully automatic models of the machine are available.*

ENGLAND

Preventing sticking in film bags

An attachment has been designed which reportedly will prevent interfacial sticking in cellulose film bags made on certain bag-making equipment. The attachment, according to *Packaging Digest* (England), forces cold air into the bag at a point near the forward end of the forming plate. This immediately cools the heat-sealed areas of film and thus re-hardens the softened coating, to prevent unwanted internal sticking to the bottom of the bag. Interfacial sticking, apparently, has become a more prevalent problem with machines which seal by heat and pressure alone since the introduction of copolymer-coated types of cellulose film.*

GERMANY

Bread baked in the package

A process for baking bread in a printed sales wrap is now being employed in Germany, according to *Packaging Review* (England). The method has been developed by a German packaging firm in cooperation with a German baking firm, using transparent cellulose film. In the process, the fresh dough is inserted into printed film bags. The open end is twisted and pushed under the pack. The dough-filled containers are assembled on an oven tray much closer, it is stated, than with unpacked dough, for which expansion allowance must be provided to prevent adherence. Baking temperature is set at a slightly lower level than for conventional baking. During the baking process, the bread expands to its final size, filling the bag virtually skin tight. Bread so baked is said to retain its freshness and flavor longer, and permits more economical use of oven space in bakeries. No detail is given about the composition of the cellulose film used.*

SWEDEN

Metal-paper-plastics butter wrap

A wrapping material claimed to be superior for the packaging of butter is described in *Packaging News* (England). It consists of a vegetable parchment, greaseproof paper or glassine, coated with a plastics copolymer with metal particles in suspension and a plasticiser. Developed primarily for wrapping fats, its properties make it suitable for packaging other foodstuffs and certain chemical products. It has a water- and fat-resistant outer surface consisting of a dispersion of vinylacrylate or styrene.*

THE NETHERLANDS

Metric system for British imports

Many British exporters are beginning to realize that one of the handicaps in trade with the Continent is the use of British weights and measures, according to a report in *Verpakking* (The Netherlands), and through the Board of Trade, the embassies in several countries were invited to investigate the matter. Consequently, a request was made to the Dutch Packaging Institute to formulate the Dutch standpoint and a committee submitted a report. Although there are no compulsory regulations regarding weights and measures in Holland, DPI felt that adoption of the metric system would greatly help to (1) overcome confusion, (2) increase popularity of imports in Dutch shops, (3) save the cost of applying new labels specifying quantities, (4) increase turnover, (5) assure quicker delivery.*

ENGLAND

Automatic canned-beer bar in a pub

Dispensing equipment for the sale of canned beer has been installed at a public house in Reading, England. Behind the bar, according to *Packaging Review* (Eng-

*For additional information, write: World Report Editor, MODERN PACKAGING, 575 Madison Ave., New York 22.

land) is a swing-tray elevator for displaying canned beer. The elevator is worked by a ¼-h.p. electric motor. It carries 22 stainless-steel trays up from the cooled cellar one after the other at a speed of 2 ft. per minute. They appear at bar level and are then carried backward and returned to the cellar with any cans that have not been removed. For two-thirds of their journey, the cans are out of sight under refrigeration. They are loaded in the cellar so that the bar is continuously restocked with chilled beer. Can openers are provided to pierce a triangular opening in the cans. Empty cans are dropped in a chute behind the bar, leading to a crushing machine which flattens the empty containers automatically for easy disposal.*

ENGLAND

Transistors in register controls

The use of transistors to replace both the photocell and the usual valve amplifier and thyratron circuit of register-scanning equipment in new controls made by a British firm is described in *Packaging News* (England). The register controls are smaller, less complicated and cheaper than other equipment, it is stated, and have the further advantage that the sensitivity of the scanning head on this equipment can be adjusted through a dial switch to suit different color arrangements and slight variations in color contrast of the register mark and its background.*

SWITZERLAND

Automatic machine for packaging eggs

Two Swiss machines for packaging eggs in specially designed paperboard cartons are described in *Emballages* (France). A semi-automatic model of the machine is designed for small producers with rated speeds of 1,800 to 3,000 eggs per hour. The automatic equipment, composed of two units, reportedly will handle a minimum of 10,800 eggs per hour. The eggs, sorted and calibrated, are carried by conveyor to the cartoning unit. By ingenious mechanism this machine receives the eggs, turns them over into position and deposits them in the compartments of the carton without risk of breakage. The cartons are formed from flat paperboard blanks and, after being loaded, are discharged from the machine completely closed, ready to be placed in shipping containers.*

ENGLAND

Polypropylene stoppers

Plug-type polypropylene stoppers are being produced by a British firm. According to *Packaging News* (England), one of the important advantages is their ability to withstand being boiled without showing any signs of distortion. There is no danger, therefore, it is pointed out, of the closures being damaged if they are washed in water or a detergent solution that has been heated by mistake to an abnormally high temperature. Polypropylene at present is being imported from the United States. The stoppers are supplied in a variety of colors and are equipped with medallions, which may be embossed with user's trade identification.*

GERMANY

Dry offset printing of plastics containers

A German machine for economical decorative printing of plastic bottles and collapsible tubes in up to four colors has an output of 35-50 containers per minute, depending on bottle size and the skill of the operator, according to a report in *Packaging* (England). With variable-speed drive, output is said to be 80 units per minute. In addition to cylindrical bodies, it is stated that the machine can accommodate tapering hollow bodies with up to 60 deg. of taper, as well as containers with narrow-necked plastics bodies.

Principle of the machine is the arrangement of the inking units radially at the circumference of one large impression cylinder, which is said to assure very accurate registration. Position of the mounted stereos can be axially and radially regulated by means of micrometer screws, as is also the case with the plate cylinders. Colors are printed on top of each other while ink is still wet, enabling blending of colors to give the effect of six or seven colors.

In operation, bottles roll forward from a sloping chute to an infeed station located opposite a rotating disk with six bottle holders. Each time a holder is in correct position, a bottle is thrust into a shallow cavity of the holder while, at the same time, a conical-shaped member mounted on a pneumatically controlled arm is inserted into the bottle mouth and firmly pressed in. Into the conical-shaped member fits a conical-shaped valve which is connected with the air-pressure system. Just before the bottle arrives at the first printing station, this valve is inserted into the cone and after opening gives access to the bottle, which then is filled with pressurized air. At that point, the inflexible body of the bottle is brought into position for printing. After the full printing cycle, the valve is withdrawn and the bottle is discharged, being thrust by means of air pressure into one of the fingers of a conveyor chain which travels through a drying tunnel.

Plastic bottles with a diameter of 75 mm. and a height of 170 mm. can be handled by the machine, it is stated. When utilizing the machine for printing conical bottles, specially shaped mandrels can be mounted on the rotating disk to fit the container shape. These containers may have a diameter up to 100 mm. and a total height of up to 200 mm.*

ENGLAND

Awards for Britain's best packages

At last Britain is to have a national packaging contest, reports *Packaging News* (England). To be called "Starpacks 60," the competition is to be held this fall and is being organized by the British Institute of Packaging. It is to be open to all types of packages which are in current production and use.*

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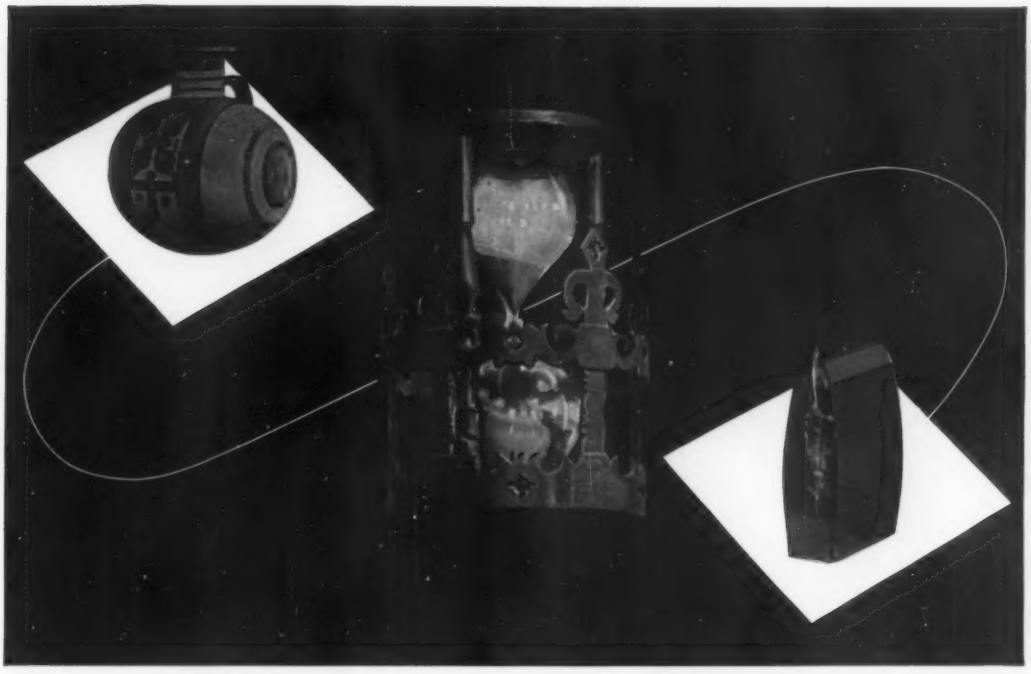

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Editorial Memo

What's wrong with summer?

Business, like people, is subject to imaginary illnesses. Take the case of the Summer Slump. For generations, it has been accepted doctrine that You Can't Do Business in Summer. This is based on the theory that (a) all businessmen take vacations in summer and (b) even when they're not away they're too hot and uncomfortable to think about business.

This, we submit, is no longer valid doctrine. The advent of air-conditioning has made offices not only comfortable, but downright attractive in the hot months. With present-day ease of air travel to warmer climes, the human urge to get away has turned more and more to the cold months. Travel figures show that vacationing is no longer concentrated in the few summer months, but is tending to spread out more evenly over the entire calendar year.

There's no longer a summer slump in retail sales. Fact is, last year, according to Department of Commerce statistics, June and July were peak months, exceeded only slightly by October and December high spots.

There's no summer slump in manufacturers' sales of consumer goods. According to the Government figures, sales in this category last year hit their peak in August, which was second only to July.

And we submit that there's no reason for a summer slump in package planning. Quite the contrary. Summer is a time for completion of the busy fall and holiday programs just ahead. While July is still a traditional time, in many areas, for plant-wide vacation shutdowns, we observe that it is more and more the custom for executives to stay in their air-conditioned offices and take advantage of the lull for some serious reading and study. Business-publication readership, according to a recent McGraw-Hill survey, falls off only 0.8% in July.

A special consideration right now is the changing pattern of both packager and packaging-supplier organizations. In both areas, one-product, one-market companies are outmoded. Diversification through development or acquisition has so varied each manufacturer's line that there is little seasonality in the total output of any one. Their expanded resources and facilities, and broadened markets make it possible for many companies to ignore the calendar and produce their diversified lines on a year-round schedule that levels out costly production cycles.

We put you on notice that there will be no summer slump in MODERN PACKAGING. Our work now in progress will result in articles of unusual depth and unusual scope over the next few months. We won't buy the idea that packaging people stop thinking when the weather turns warm.

The Editors

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June 1960 Vol. 33 No. 11 MODERN PACKAGING

Upturn in pre-packaging

Despite problems in machinery, merchandising and management thinking, the packaging of fresh fruits and vegetables is on the rise as growers, packers and retailers sense the sales advantages of brand identity

The "neglected sister" of supermarket merchandise—fresh fruits and vegetables—may soon blossom into a packaging Cinderella. For supermarketers, terminal operators, independent packers and growers are beginning to come up with practical answers to the complex questions of who should do the packaging and what types of packages and machines should be used for the infinite variety of fresh produce items that now crowd the self-service cases of retail outlets.

Involved in produce marketing are problems that have bedeviled packaging men in many industries:

1. In the face of growing competition, stronger merchandising is needed to reverse declining sales —an upturn that many experts feel can be accomplished only with 100% pre-packaging of fresh produce to hold the line against improved and ingenious packaging of canned and frozen foods.

2. Size and location of packaging facilities and the effective range of distribution must be deter-

Many packaging forms *now accommodate awkwardly shaped produce items. Colorfully printed cellophane or polyethylene bags are widely used for leafy greens and such other commodities as beans, celery and radishes. Tray, carton and basket packs—which started with tomatoes—have spread to many berries, premium vegetables, deciduous and citrus fruits. Wraps are being increasingly used for such large, round vegetables as head lettuce and cauliflower.*

100% pre-packaging, *such as in this new Red Owl store in Minneapolis, is a sales maker for fresh fruits and vegetables, according to supermarket packaging men. Attractive pre-priced packages in convenient units of sale speed customer turnover, help maintain product quality.*

mined—though there is a definite trend to high-volume grower and terminal packaging of produce.

3. Mechanical development is necessary for all levels of pre-packaging, particularly in the creation of more high-speed automatic equipment to handle irregularly shaped and bulky products. Already, such tough problems as mechanized packaging of head lettuce are reported solved.

4. Inertia among some old-time personnel and top management in both chain and independent stores must be changed to facilitate the many new packaging and display ideas that experts feel could re-establish the supremacy of fresh produce.

In the solution of these problems, now being hammered out by the produce industry, lies information valuable to all packagers, for many of the packaging techniques now used in this field have been borrowed from other food and non-food packaging operations. Moreover, new packaging materials and techniques adapted for fresh produce may well spread to other industries.

Pre-packaging progress

Despite the obstacles, there is evidence that pre-packaging of fresh produce is making stronger progress today than ever before. And while fruit and vegetable counters in retail stores do not reflect the high level of packaging achieved by meat departments—which now reportedly boast a national average of 86% packaged items, according to the Supermarket Institute—these significant points about fresh produce bear notice:

- An estimated 30% of all fruits and vegetables are now being enclosed in some form of package—up 27 percentage points compared with the early 1940s, according to the U. S. Dept. of Agriculture. This Federal agency also predicts that 50% of all the fresh fruits and vegetables produced will be packaged by the end of this decade.
- Pre-packaging is preferred by the majority of consumers today, according to latest surveys, and, where properly performed, definitely reduces shrinkage loss and increases sales.
- Chain stores and terminals are beginning to establish efficient volume pre-packaging operations in central locations. And independent packers of specific commodities are more numerous and are doing a bigger volume of business. Even grower packaging, which has lagged, is beginning to catch hold in some product areas.
- Some packaging equipment developed for high-speed automatic or semi-automatic handling of produce also provides the necessary flexibility for the handling of short or medium runs that frequently occur even in volume operations.
- Success of 100% pre-packaging in a few supermarket chains has opened the eyes of management in many other mass food outlets. Knowledgeable pre-packagers predict a halt in a trend to processed fruits and vegetables over the next two years and a possible resurgence on the produce counter.

Consumer attitudes

But if these predictions are to come true, produce-industry packaging experts believe that two points must be emphasized: (1) Produce pre-packagers must establish a higher level of consistent quality and (2) the industry must establish packaging standards that will result in preserving this excellence and assure repeat sales.

Consumer suspicions concerning the quality of pre-packaged merchandise were highlighted in a survey of homemaker attitudes made earlier this year by *Food Merchandising* magazine. According to this study, a majority of women admitted that pre-packaged produce gives them a better selection of more sanitary fruits and vegetables, more attractively displayed and more pleasant to handle and store in the home refrigerator. Yet 56% of these women said that bulk produce is equal or superior in quality to packaged produce.

This critical finding confirmed an earlier Du Pont measurement of consumer likes and dislikes. Here, 52% of the housewives interviewed said that they prefer packaged produce—but a significant 25% prefer bulk fruits and vegetables because they believe that both quantity and quality are better. Significantly, too, another 22% expressed no preference between packaged and bulk produce.

Obviously, the fact that packaging performs a functional job of produce protection has not been driven home to consumers. Their hesitant attitude underlines the need for more quality grading and preparation of pre-packaged fruits and vegetables, according to F. W. Spannagel, produce packaging specialist at the American Viscose Corp. No one, he declares, will pay extra money for wrapped products unless the packaging is accompanied by such tangible advantages as cleanliness, elimination of waste, preservation of quality and the providing of convenient units of purchase and use.

That such functional advantages can be realized is now acknowledged by a growing number of retail packaging experts. And sales volume of some packaged produce items prove the point. According to recent figures assembled by the Department of Agriculture's Agricultural Marketing Service, 55 to 60% of all fresh potatoes sold in retail stores are now pre-packaged before they reach the store; some chains report 80 to 90% of potato sales in consumer

Independent packers *have been prime innovators in the application of mechanical packaging techniques for produce. Suffolk Farms Packing Co., Chelsea, Mass., was a pioneer user of form-fill-seal equipment (above) for pouch packaging of radishes and onions. Now this company has a speedy new semi-automatic machine (below) that is reported to solve the difficult packaging problem of weighing and bagging fresh spinach.*

Terminal packing, *long relegated to dingy basements, is beginning to blossom out with modern, efficient packaging operations—such as this new 40,500-sq.-ft. facility run by the Triple M Packaging Corp. in Philadelphia. Capable of handling 42 carloads of produce per week, this plant consists (from front to back) of five lines: two tomato-traying lines, carrot-bagging equipment, an onion-bagging line and a potato-packing operation (not visible in this photo). Grape-packaging machinery, the company reports, will be added in the near future.*

packages. About 45% of all apples are sold in film bags. Radishes and mushrooms are widely packaged, and oranges, pears and celery are increasingly packaged at their point of origin. There are other produce items, of course, which are packaged to a lesser, though also increasing, degree.

A less tangible factor in the sale of pre-packaged produce—but no less real——is the confidence that consumers place in branded merchandise. While the supermarket operators who do a volume business in pre-packaged produce have not released comparative sales figures, it is known that establishment of strong brand names for fruits and vegetables does significantly boost sales.

Location of operations

In the past, one of the strongest deterrents to packaging has been the question of where prepackaging should be done. And though this problem is by no means resolved, there is a steady growth in grower, terminal and independent packaging operations that signifies an important trend away from the back room at the retail store.

Utilizing high-speed machinery for volume packaging, these facilities reduce cost and waste for both retailer and consumer. The terminal packer, located in or near the produce markets in large urban centers, can take maximum advantage of low-cost bulk shipping from growing areas and deliver high-quality packaged products to localized distribution points. This pattern of packaging—which has been developed to a high degree in the motor-oil industry, for instance—appears highly feasible for the fragile produce commodities that tend to suffer heavy damage during shipping.

Because of high urban labor rates, however, packaging of sturdier fruits and vegetables by growers, cooperatives and other independents at the point of origin—where labor is cheaper—is also practical and is on the increase. Many individual growers—particularly of oranges, potatoes, onions, apples, grapes and celery—have demonstrated the profitability of such shipping-point packaging.

Not so clear at this time is the role of the supermarketers' centralized pre-packaging centers, which are now beginning to appear. Here, there are two lines of thinking among supermarket executives: (1) Terminal-type operations for a broad range of fruits and vegetables are advocated by one group and (2) centralized packaging for only those items that are not handled in volume by terminal and independent packers is espoused by the other.

Since it is hard to better the packaging being done by modern terminal operators, the second supermarket group appears to have the best answer. And there are enough unpackaged items to

use the full facilities of a supermarket pre-packaging center without duplicating the efforts put forth by the terminal and independent packers.

Machines

Regardless of where pre-packaging is done, however, the high cost of labor and the necessity for big volume have definitely sparked development or adaption of speedy automatic machinery, making possible such terminal produce-packaging operations as the Triple M Packing Corp., Philadelphia, and Aunt Mid in Chicago; such centralized supermarket packaging plants as those at A&P, Kroger and Publix Supermarkets, and such independent operations as Suffolk Farms in Massachusetts and Farmer Brown in Connecticut and New York. At these facilities, mechanical handling and packaging have been refined to a high degree, borrowing techniques from many other packaging fields.

Form-fill-seal units have been modified at Suffolk Farms to accommodate such small, free-flowing products as radishes and onions. Further changes, including special feed elevators and weighing devices, now enable these units to pouch package such heavier produce as onions and potatoes. Special bagging machinery devised for the bulky produce items and even for leafy greens is in use at both Suffolk Farms and Aunt Mid. Standard overwrappers, first used for the automatic packaging of tomatoes in cellophane or polystyrene, have been modified to accommodate paperboard or plastic tray packs of virtually every vegetable and fruit, and are used by many packers, including Triple M and Publix. Lettuce, a notoriously difficult product to package because of variations in size, is reportedly now being handled effectively on a new automatic random-fold wrapping machine.

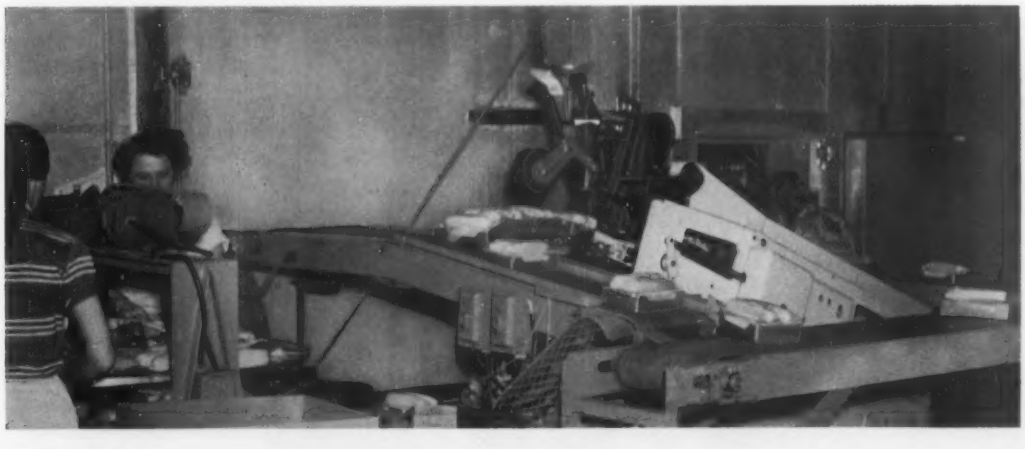
In many cases, the need for versatility in produce packaging has led to ingenious semi-automatic machinery—weigher-baggers for such heavy produce as potatoes, oranges and apples, compact bag sealers and twist-tie applicators—which are now used by many grower-packers and may have application in other packaging fields. A small carton sealer, devised for low-speed operations in processed-food packaging, is now projected for fruit and vegetable operations. Automatic machinery that stamps weight and price on pressure-sensitive or glue-type top labels is being used by several supermarket packers to eliminate tedious hand work and may find many other packaging uses with the current trend toward pre-pricing of non-food items.

Even though a need for more specialized machinery remains, the variety of packaging machines already available makes it apparent that pre-packaging will not be held up by lack of equipment.

Materials

In materials, too, there seems to be no lack of suitable "breathing" films for produce and new materials are constantly making their appearance. Polyethylene film, because of its low cost and great strength, has won major acceptance in produce packaging during the last two years, particularly for such heavy items as potatoes and apples. However, even such lightweights as radishes now utilize the cost-saving advantages of this material. A new form of polyethylene—a stretchable netting—is

Centralized supermarket packaging *is rapidly adapting equipment and techniques from other packaging operations. Here at Publix Markets, Lakeland, Fla., volume packing for the chain is done on this typical line. Ears of corn, for instance, are husked at left, packed into folding paperboard trays (center), fed through a standard film overwrapper and conveyed to cold storage (right rear).*



said to offer great potential as a tough, open-mesh bag for produce and has already been field tested for oranges, reportedly receiving high praise from consumers. First commercial appearance of this material is outside the produce field as a decorative wrap for wine bottles,[1] but this use suggests its feasibility for produce and other applications.

Film fogging, which has always been a problem with packaged fruits and vegetables that are subjected to fluctuations in temperature, is not appreciably improved by conventional punch holes in the film bags. But it has been greatly reduced by the use of polymer- and polyethylene-coated cellophanes. Originally devised for such other food products as candies and meats, these films have the peculiar but advantageous property of resisting wrinkling due to moisture and of dispersing water droplets evenly over the inner surface of the wrap, thus preventing both fog and the localized collection of water, which are factors that induce spoilage.

While moistureproof cellophane is the standard for most pre-packaging wraps, film with only intermediate moistureproof qualities is also used to facilitate controlled moisture loss in such wet products as pre-washed spinach, thereby preventing water build-up. Anchored films are particularly important for produce with a high moisture content. Polystyrene film—a very low-cost newcomer—has also appeared in pre-packaging applications where high strength is not required.[2] Polystyrene film has high moisture- and gas-transmission properties and is ultra-clear and glossy.

And the stretchable polyethylene[3] films—lately created by both irradiation and special blowing techniques—are entering the produce field as skin-tight bands and wraps for tray-packed deciduous fruits. The first application shows great promise as a combined protective and merchandising package for fragile fruits and vegetables that suffer greatly from shipping damage. Shrinkable PVC films are also being used experimentally now for the pre-packaging of some fruits and vegetables.

From other food and non-food packaging industries have also come injection-molded and thermoformed plastic boats and trays that are beginning to get volume use for hothouse tomatoes and other premium produce items.

Where wrapping techniques cannot surmount the difficulty of product shape or size, cartons and overwraps have stepped in to fill the packaging bill. A notable pioneer example of this technique is in the National Cranberry Assn.'s marketing of berries, which won wide commercial acceptance as a packaged fresh product; 90% of the annual crop is now sold in this form. Even bananas, cauliflower and grapes—to name a few—have more recently been cartoned in consumer units. Banding, contour wraps and window cartons have also been applied to specific produce items.

With brand identification regarded as a strong sales asset, pre-packagers are increasing their use of colorful printing and labeling techniques, which are abundantly available. Easy-to-use pressure-sensitive and thermoplastic labels are supplemented by economical glue-type labels—and all types can now be applied with fast and flexible automatic or semi-automatic machinery. Printing of all films has progressed to the point where multicolor designs in either bold or fine patterns are readily applied to the thermoplastic as well as to the non-thermoplastic materials.

The basic problem for retailers is that once a brand is established, it [*Continued on page 230*]

[1]See "Now: Polyethylene Netting," p. 98, this issue.
[2]See "Now: Polystyrene Film for Produce," Modern Packaging, Feb., 1960, p. 96.
[3]See "Shrink-Film Tray Pack," p. 132, this issue.

Grower packaging *is not yet highly mechanized because of lower labor rates and seasonal operation. But many packaging men and growers believe that such shipping-point packaging as this cauliflower-wrapping operation at Fudenna Bros., Irvington, Calif., is essential for many items to eliminate trim waste, maintain quality and boost shelf life. Here, washed and chilled cauliflowers and leaves drop from chute to packing table, where the trimming and wrapping operation boosts effective freight-car capacity by 60% and adds days to the store life of the vegetable.*

Tube-fed grease gun

Applicator package combines disposable vinyl container of lubricant with inexpensive dispenser to provide clean, do-it-yourself convenience

For the weekend mechanic who wants to lubricate such tools as his power lawnmower, applying grease from a bulk container or reloading a cartridge-type grease gun can be a messy job. To solve this problem, the Southwest Grease & Oil Co., Wichita (200 employees), has come up with a packaging improvement which suggests that perhaps even the lady of the house can do the lubricating job while dressed for an afternoon of bridge.

By combining the grease-resistant properties of an unlined vinyl tube, attractively decorated in three colors, with an inexpensive, thumb-operated grease gun that screws onto the tube, Southwest has built maximum convenience into this applicator package while eliminating the messiness. To operate this combination, the user grasps the tube between the four fingers and palm of one hand, squeezing it slightly to force product into the spring-loaded gun which is activated by the thumb. The gun, made of steel with a nylon tip, is sold with the 8-oz. tube of grease for about $2. Replacement tubes of grease are available at "nominal" cost.

For some time, Southwest Grease & Oil had considered a small and effective grease gun. Because a special package would be required as a storage chamber for the lubricant, a collapsible tube appeared to be the most desirable container.

For its new tube, Southwest and its supplier selected vinyl (0.018-in.) because of its resistance, without a liner, to penetration by oils and fats.

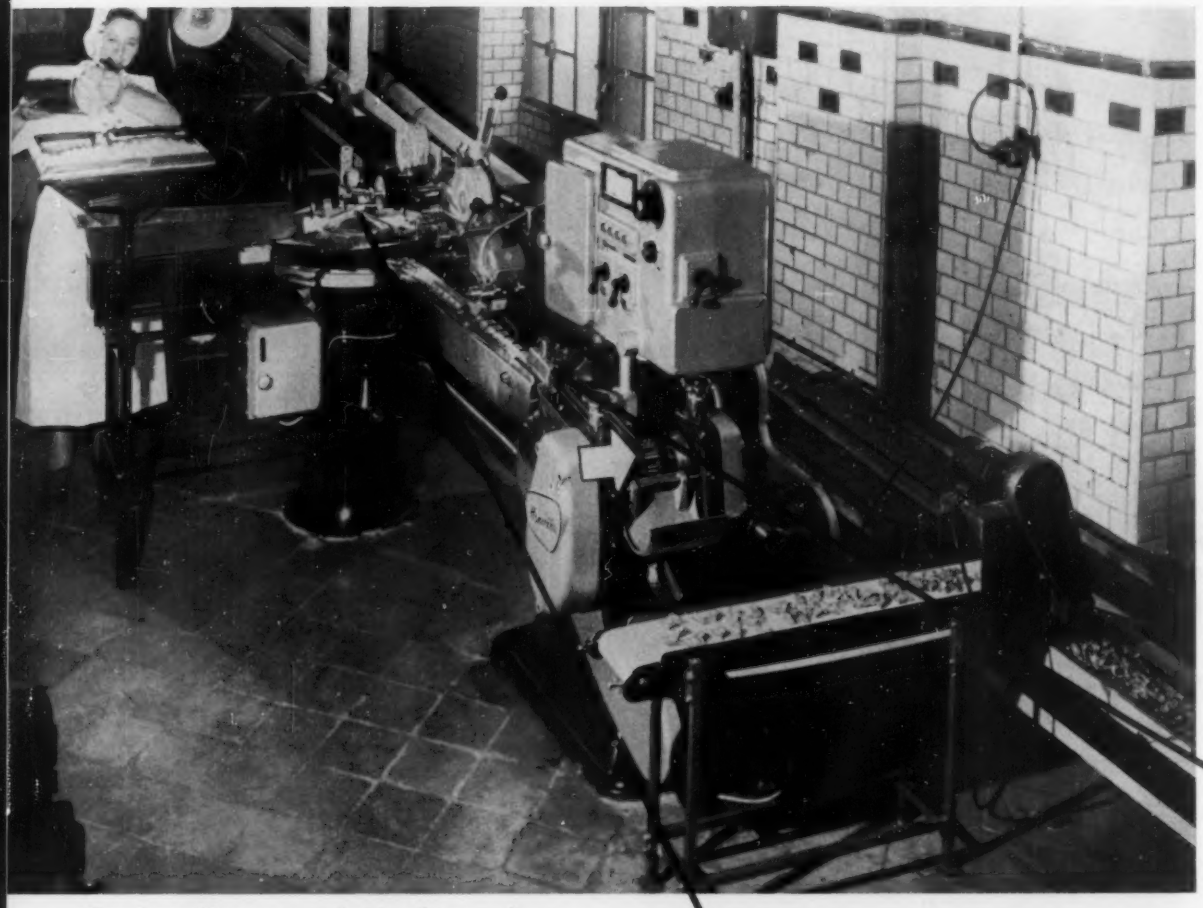
Vinyl tube *of grease is screwed into thumb-operated, spring-loaded applicator for do-it-yourself lubrication. Unlined vinyl was selected for its grease resistance and surface printability by offset.*

Along with this product and user protection came a suitable printing surface which accepts high-quality, black, white and red offset printing for maximum display and impulse-purchase appeal.

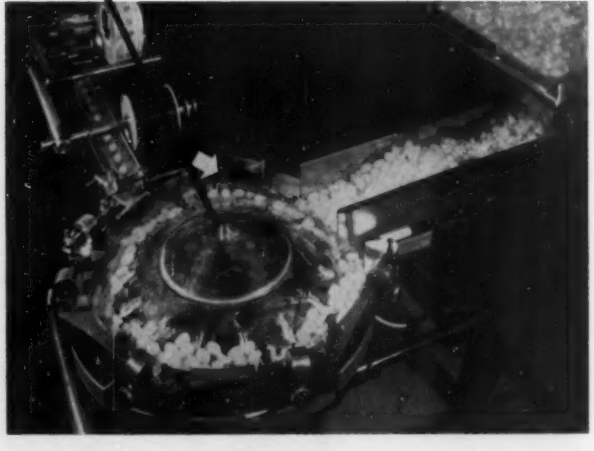
Although Southwest reports vinyl tubes are slightly more expensive than metal cans holding comparable product quantity, this is offset by the combination with a less expensive grease gun and by elimination of the need for a grease storage unit. Tube and gun are sold from counter display cartons in automotive supply and hardware stores, as well as in service stations.

SUPPLIES AND SERVICES: Vinyl tube by Thatcher Glass's Plastic Tube & Bottle Div., Nashua, N. H.

Ultra-fast pouch



Pouch machine *moves product from hopper and vibratory feeder (left) to rotary positioner (next right) which spaces the sweets in the film-forming section (center). Sealing section of machine (beneath control panel) utilizes side belts to hold and guide candies during longitudinal sealing of film tube and a rotary sealer containing cut-off knives (arrow) to separate individual pouches.*



Rotary positioner *accepts product from vibratory feeder (right) and controls flow and load by means of electronic sensing elements (arrow). Guided by baffles, candies fall into cups and are fed in single file on a lug-chain conveyor leading to wrapping section (upper left).*

packager

New 470-per-minute form-fill-seal equipment for individual candies utilizes unique feed and film-handling mechanisms to halve material usage and costs for German firm

Petite pouches *for individual candies have registered, three-color designs that provide transparent windows on both front and back of most pouches through which to see the product. These economical pouches use 51.5% less film than does twist wrap, for a 48% cost saving.*

Resurrecting a package popular in the early days of candy packaging*, a West German firm has adopted a tiny individual pouch for its hard sugar sweets. But unlike the unit that packagers used 30 years ago to handle such candies at only 50 per minute, Kaiser's Kaffeegeschäft GmbH at Viersen pouch packs its products on a new single-head machine that accurately registers cellophane-wrapped products at 470 per minute—a rate superior even to 450-per-minute twist-wrapping operations. Each individual piece of candy is heat sealed in moisture-proof cellophane—making it the smallest heat-seal package ever run automatically at high speed.

Secret of this high-speed performance is a new rotary feeding device for sorting and aligning the product and the use of special photoelectric registration techniques and film-forming and sealing mechanisms—methods that may suggest broad applications for small food, drug and hardware items.

Using only 50% of the film required for an equivalent twist wrap, the miniature pouch packs produce significant economies, yet also give maximum display surface for product and brand identification. At Kaiser, the individually pouched candies are enclosed in 100-gm. (3.5 oz.) pouches and are marketed through the company's chain of 900 stores, most of them self service.

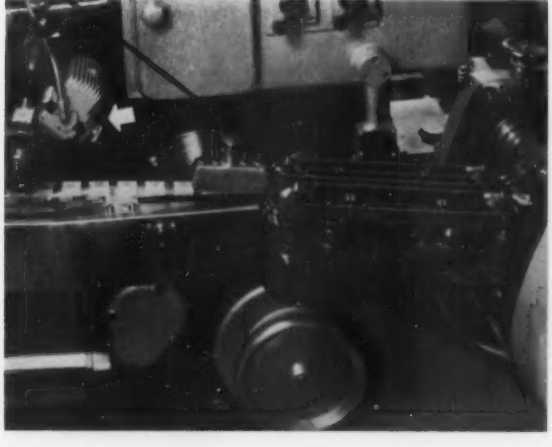
In conjunction with the registered designs, a clear, unprinted strip is incorporated in the pouch as a "window" through which the candy is seen.

The dramatic percentage on film savings does not tell the whole story on costs, however. For though the savings are significant, printing factors affect the total picture. In this instance, the packaging situation is closely tied to recent changes in West Germany's food and drug law, which may be paralleled in the United States if pending food-and-drug color legislation passes Congress.

Before the new West German regulations on the use of coloring in foodstuffs, the candies themselves were tinted and the twist wraps consisted of a simple non-heat-sealing, moistureproof cellophane printed in one color. Now, with many product colors unusable, the pouch film [*Continued on page 222*]

*See "The Continuous Pouch Packager," A Great Packaging Discovery, MODERN PACKAGING, April, 1960, p. 104.

SUPPLIES AND SERVICES: Model 25/30 Candy Wrapper by Hamac-Hansella Maschinen GmbH, Kolnische Str. 1-3, Viersen/Rhineland, West Germany.



Pouching section *of machine plows film around candies (left), controlling registration with accurate electric-eye positioner (arrow), then makes longitudinal seal while film tube and product are controlled by side belts (center). Rotary sealer, equipped with cut-off knives (right), clips individual pouches from the web.*

NOW:

Decorative plastic net *improves the merchandising impact of wines and champagne. Supplied as a bag, the netting is drawn down over the wine bottles and heat sealed on the bottom with a hot-air blast and roller pressure. For champagne, netting is drawn up and secured with an aluminum-foil seal because bottle's concave bottom makes heat sealing impractical.*

Polyethylene netting—extruded in tubular form by a single manufacturing operation that automatically bonds each strand into a strong and expandable mesh—is the latest and most unique variation of this versatile polymer resin. With its built-in stretch that enables the mesh tube to accommodate several times its own initial volume, the netting will conform closely to surfaces of irregularly shaped containers. When sample swatches were first shown, it was immediately assumed there would be a packaging use for the new net material.

Now there is. First applied as a decorative wrap for wine bottles, a fine-meshed, diamond-patterned net with bright red or gold colors has stimulated consumer interest and captured preferred shelf positions for a new line of kosher spirits, packaged by the Rokeach Wine Co., New York, and distributed so far in New York, New Jersey and Florida markets. At present, the company is packaging Concord and Malaga wines and champagne in fifths and quarts. The netting is slipped over the bottles by hand and fastened with specially devised mechanical heat-sealing or clinching techniques.

The netting increases packaging cost 7%, but because of the competitive nature of this product field, company officials consider this expense to be more than offset by marketing results. Furthermore, the extra cost may be trimmed when volume orders warrant longer runs on the special semi-automatic packaging line devised to handle the netting.

The economics of this material may be more favorable in proposed bagging or multipacking operations, where the material is used at maximum stretch and surrounds the greatest volume of product with the least amount of netting.

The netting is supplied to Rokeach as a "bag," with the closed end gathered and "pinch sealed" by heat. Considerable ingenuity was necessary to find

Enhancing the merchandising appeal of bottled wines by Rokeach,

a strong, colorful plastic mesh that expands to several times its initial size

may find broad packaging applications in other product fields

polyethylene netting

a practical way to close the other end around the bottle because the elastic and gossamer nature of the plastic webbing encourages both shrinkage and melting when it is heated. Also, complete enclosure is not possible on bottles destined for such states as New York and others that require a retailer label to be placed on each bottle.

The solution for the wines was (1) a simple and inexpensive rotary packaging table equipped with a hot-air sealing device and (2) the use of netting in two different lengths. Because of the concave bottom of the champagne bottle, this product is handled in a different fashion.

With the wines, the bottles are first filled and sealed, then passed to a [*Continued on page 210*]

SUPPLIES AND SERVICES: "Vexar" plastic netting by Du Pont, Wilmington 98, Del. Rotary heat-sealing table by Trescott Co., Fairport, N. Y.

Rotary sealing table *puts packaging operations on a semi-automatic basis. Bottles from filling and sealing operations are covered with net bags (background in photo below), then are placed in V-shaped jigs on table. Rotated past hot-air blower (center on lower photo and shown close-up in photo above), netting is softened, then flattened and sealed by Teflon-coated roller.*

Polyethylene bags guard sugar against moisture

Polyethylene's superior moisture-barrier property has been adapted to the packaging of powdered and brown sugars by California & Hawaiian Sugar Refining Corp., San Francisco. These moisture-sensitive products, in 2½-lb. quantities, are going to market in unsupported, printed 3-mil bags. According to the packager, the film bags minimize a long-standing problem of product lumping and caking, and also maintain sugar's freshness during extended shelf storage.

The prefabricated bags are filled and heat sealed on automatic equipment. Because of their flattened shape, filled bags are convenient to stack at retail, C&H points out. In the home, the bags can be opened easily for pour dispensing. Effective reclosure is achieved by twisting and securing the bag top. The flexible bags also can be stored in canisters or other tightly closable containers to protect sugar from the effects of environmental humidity.

A three-color design, flexographically printed on the bag face, allows product visibility through the film. *Polyethylene bags by Dow Chemical's Dobeckmun Co. Div., 3301 Monroe Ave., Cleveland 13. Package design by Cornelius Sampson & Associates, 722 Montgomery St., San Francisco 11.*

IDEAS

Dual-tube container speeds handling of surgical sutures

A new dimension of convenience, speed and safety in the hospital handling of sterile surgical sutures is the promise of a plastic-and-glass "twin-tube" container developed by C. DeWitt Lukens Co., St. Louis. The cold-sterilized combination package, says the company, eliminates the need for storing sutures in solution-filled glass jars, fishing them out with transfer forceps and tearing or breaking open the protective packages, as was formerly necessary.

Luken's new dual container consists of a break-resistant outer tube of transparent cellulose acetate butyrate and an inner sterile glass tube which contains the coiled suture. Each of the tubes is fitted with an easy-to-remove polyethylene closure. In package use, the nurse snaps the cap off the protective outer tube for access to the inner glass tube. A simple "finger" projection on the interior of the glass tube's closure enables removal of the suture without handling it and jeopardizing its sterility, says Lukens. *Glass tube by Owens-Illinois' Kimble Glass Co. sub., Toledo 1. Plastic tube by Celluplastic Corp., 24 Commerce St., Newark 5, and Lusteroid Container, Maplewood, N. J. Closures (Du Pont Alathon A17) by Carl Tabor Plastics, 2817 Park St., St. Louis.*

Full-time product protection

Packagers of powdery or granulated products which require full-time protection against moisture should be interested in an inexpensive container adopted by Armour Agricultural Chemical Co. for 5-lb. quantities of Vertagreen fertilizer. According to the company, the package not only is siftproof and moistureproof when purchased, but it can be re-sealed easily after first opening to retain these properties until the entire contents are completely used up.

Components of the package are an open-mouth polyethylene bag containing the fertilizer, a folding carton and a specially designed corrugated-board inner liner. The sequence photos at right illustrate how product-protective container reclosure is achieved. Ends of the bag mouth are pulled tight and the top flap of the corrugated liner is folded down over the extended film. When the carton is closed, the liner flap presses tightly against the bag top, sealing it from entry of moisture or escape of product. The corrugated liner also gives the carton greater stacking strength. *Carton by Mead Packaging, 950 W. Marietta St., N. W., Atlanta 2. Bag by Paramount Packaging, 3111 W. Allegheny Ave., Philadelphia 32, using Visking's "Visqueen" polyethylene film.*

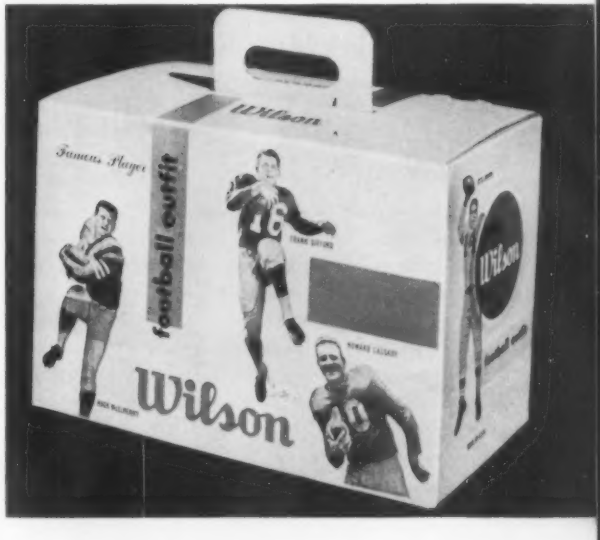
IN ACTION

Fine color printing adds gift appeal to corrugated

Recent developments in fine color printing on corrugated board are opening new packaging and merchandising opportunities to this once-drab medium. An illustration is the carry carton which has been introduced by Wilson Sporting Goods Co. as the consumer package for its "Famous Players" football outfit. Designed for gift giving, the carton displays fine-screen photographic reproductions of several popular professional football stars against a highly visual red, yellow, black and white background design.

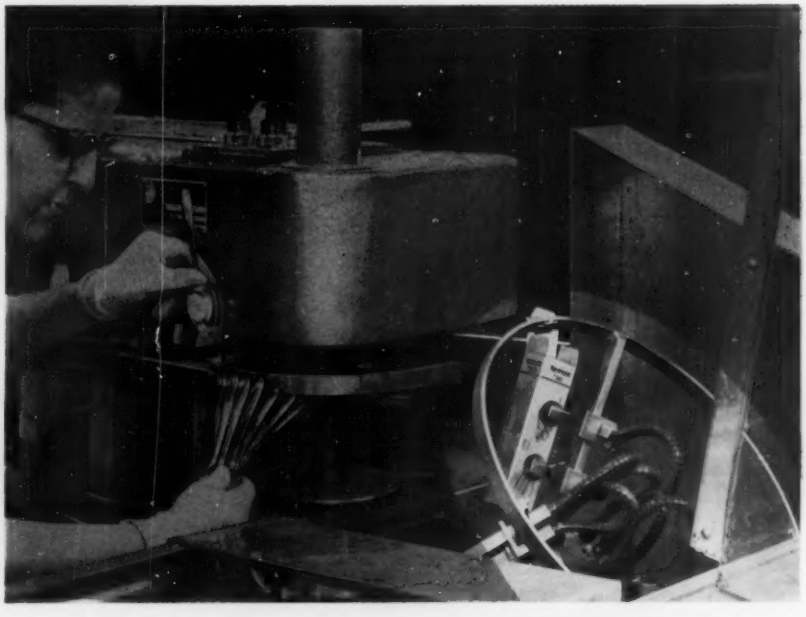
The packager's container supplier reports that the sharp photographic reproductions are precision printed at high speed from 50-line screen plates, using thin, intense inks. These speeds are made possible by a patented plate-making process that reportedly permits almost 100% release of printing inks and better control of ink coverage.

Wilson reports that its sturdy new corrugated container does triple duty. It serves as a shipper and a point-of-purchase merchandiser, as well as an inviting consumer package. *Carton by Packaging Corp. of America, 1632 Chicago Ave., Evanston, Ill. Patented plate-making process by James H. Matthews & Co., 3867 Forbes Ave., Pittsburgh 13.*



Medium-speed

Compact vertical cartoner *mechanizes all but filling operation for stainless-steel tableware; 120-per-minute unit sets up and vertically positions cartons, then closes them after hand filling.*



Rotary positioner, *angled at 45 deg., employs vacuum-cup holders that grasp horizontal cartons after conventional set-up and raise them to vertical position for loading. Chain-mounted lugs (center) hold cartons fore and aft as they pass through the loading and closing stations.*

Economical packaging of products requiring comparatively moderate volume is often best accomplished at less than super speed and with less than full automation by mechanizing key packaging steps, thus pacing the hand labor used on those operations that seem least practical to mechanize.

A case in point is a new cartoning unit for stainless steel tableware at Oneida, Ltd., Sherrill, N. Y. (2,500 employees)—a firm that successfully used such difficult packaging techniques as automatic wrapping and pouching of silverware.

Designed for the cartoning of give-away tableware—spoons, forks and knives that are enclosed as premiums in boxes of Lever Bros.' "Surf" detergent—the new line provides packaging efficiency at low cost. Though volume of the items for a long-term premium offer is great enough to demand good packaging speed, it is not sufficient to warrant use of expensive, automatic, ultra-high-speed horizontal cartoning machines that operate at up to 1,000 cartons per minute, according to Oneida.

Thus, Oneida has selected a compact and low-cost new vertical cartoning machine (the first commercial installation of this unit) that mechanizes such essential operations as carton set-up, positioning and closing at 120 cartons per minute. Two operators—the minimum for this job—load the tableware into the packages and case the finished cartons. This combination of mechanical and hand techniques has doubled packaging speed over that of Oneida's previous, smaller, semi-automatic machines and reduced the requirements for hand labor by a third—for a 200% gain in output per manhour.

An important feature of the new machine is a vertical carton magazine, which is easily loaded by the operator who also hand fills the cartons after they are set up. The cartons, constructed of inexpensive 20-point reclaimed board, are pulled down

mechanization

Efficient cartoning of soap-premium tableware at Oneida, Ltd., is achieved by integrating automatic and manual operations on a compact new 120-per-minute unit that triples output per manhour

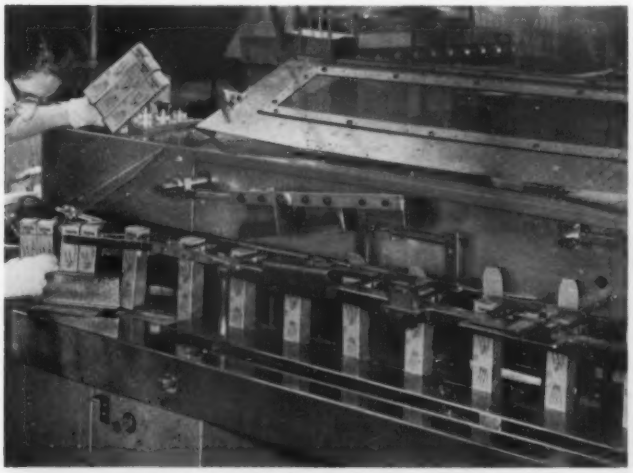
from the magazine by a reciprocating vacuum bar and are set up horizontally by a simple rotating arm that operates with an intermittent action. The bottom flaps are closed by fixed plows and an eccentric arm equipped with knives that break and tuck the main bottom flap. Top flaps are reverse broken by fixed plows to make them stand up straight during the subsequent filling operation.

Raising the cartons from horizontal to vertical position for loading is performed by a simple rotating vacuum device that resembles a tilted ferris wheel. Consisting of a rim with sets of vacuum arms attached to three spokes, this mechanism is tilted at a 45-deg. angle and is synchronized with both the carton set-up conveyor below and a lug chain on the loading section of the machine above. At the low position, the arms are parallel to the carton feed, but due to the angle of the wheel, they rotate the cartons into a vertical position at the high point. As the vacuum is broken, lugs on the upper loading conveyor pick off the cartons.

From here, dual side-mounted chains with horizontal lugs, positioned before and behind each carton to insure stability, pull the cartons on steel base plates through the remainder of the packaging operation. As each carton passes in front of one operator, she hand loads it with a single piece of tableware, handle end first for speed. (At present, only spoons have been packaged on this unit, but knives and forks will be run at a later date.)

Moving on to a horizontal 180-deg. turn, the cartons are checked [*Continued on page 229*]

SUPPLIES AND SERVICES: "Vertuck 120" cartoning machine made by Bivans Corp., 2431 Dallas St., Los Angeles 31, and supplied by New Jersey Machine Corp., Hoboken, N. J. Cartons by United Board & Carton Corp., 2 Park Ave., New York 16, and Climax Mfg. Co., Castorland, N. Y.



In-line closing device *for filled cartons on rear of machine uses simple plow rails and an oscillating set of tucking knives driven by an eccentric arm.*

Inexpensive carton *for Oneida's soap-premium ware is made from 20-point reclaimed fibreboard. Flaps are cut back sharply to facilitate rapid machine handling. Spoons are loaded handle first to increase packaging speed.*

THIS MONTH'S COVER

GREAT PACKAGING DISCOVERIES—16

Process printing on cellophane

High-speed, fast-drying gravure printing, by adding the essential dimension of colorful design to the merchandising appeal of transparency, gave this new film a versatility that assured its packaging use

In its early days, cellophane was a novelty because of its remarkable transparency. Before 1924, nothing had been seen like the wrapping so clear that everything inside was visible. Packagers clamored for the new see-through material, particularly after it was made moistureproof in 1927. But the novelty quickly began to wear off. It was apparent that colorful printed effects, produced at high speed, would be essential if the advantages of the new wonder material were to be fully realized by packagers.

Only by direct printing on the cellophane itself could the extra expense of affixing labels be eliminated. And with the trend to self service and open display, transparency alone, without glamorous graphics, was not enough to win standout brand impressions. The new moisture and grease protection offered by cellophane merely increased the demand for functional packages with surfaces that could be printed in full color.

Yet progress lagged because cellophane could not be handled on a printing press in the same manner as paper. The non-porous nature of the new film required faster-drying inks than ever before. Presses had to be designed to handle a sensitive material under conditions never previously encountered.

Few recent developments, perhaps, represent a greater combination of efforts than those of the chemists, engineers, machine builders, ink makers, adhesive specialists and designers who had a part in perfecting process printing on cellophane. Nor have many developments had a greater impact on packaging, for this printing technique immediately increased the usefulness of this popular film, converting what had been a relative novelty into a versatile packaging material that boasts an outstanding record in its application to thousands of products. Today, more than 100 varieties of cellophane account for the 450 million pounds of this film produced annually in the U. S., 94% of it for packaging purposes.

Credit for bringing to commercial reality the first high-speed rotogravure process for printing on cellophane—certainly one of the most widely accepted methods today—is generally given to the Shellmar Products Co., now Continental Can Co.'s Flexible Packaging Div. at Mt. Vernon, Ohio.

Actually, the first practical printing on cellophane was done by letterpress, using oil inks and a flat-bed press with plates mounted on wooden blocks. The pioneer in this development was Milprint, Inc., Milwaukee. The letterpress process eventually was improved by the engineering and construction of a five-color rotary press, using stereotype plates. Starting with a roll of cellophane at the front end of the machine, the material was cut into sheets after it was printed. Then came aniline, known today as flexography, which has many special advantages, particularly for line work, due to its use of quick-drying aniline inks and its economy for relatively short runs. But it was realized early that volume use of the new film could be achieved only by still faster and more economical methods of full-color quality printing.

In July, 1933, a patent application was filed by the late Irving Gurwick of the Transparent Packaging Co., New York, for "an improved printing method and a machine of the intaglio type which have been found of great advantage in the printing of such materials as transparent cellulose sheeting."

Among the special features of the machine was an electrically heated roller

First product *packaged in gravure-printed cellophane was this 5-cent bargain in the mid-'30s.*

positioned closely adjacent to the printing cylinder for immediate heat drying of the cellophane after it was printed. In combination with lacquer-base inks formulated with rapidly evaporating solvents, this technique provided the means for the almost instantaneous drying essential for satisfactory application of inks to the non-porous sheeting. The Gurwick patent was granted in 1935.

Shellmar, which became interested in the converting of cellophane as the result of many years experience with glassine, purchased Mr. Gurwick's process, together with his patent application, and set about perfecting the process.

According to Bert Martin, at that time Shellmar's president, the Gurwick machine was virtually rebuilt. The company developed its own inks—actually grinding the pigments and experimenting with a variety of solvents. Shellmar made its first cylinders from seamless pipes, doing its own polishing, engraving and chrome plating. Also generally credited to Shellmar is the technique for reverse printing that gives such brilliance to process printing on cellophane by permitting colors to show through its sparkling surface. And it helped to perfect the technique of sandwiching the reverse printing between the film and an interior non-toxic coating so that printed cellophane could be safely used in contact with foods. The significance of this development is evident in the fact that three-quarters of all cellophane is today used to package food.

The first commercial application of the gravure process on cellophane was a wrapper for Peter Paul's Mounds candy bar. This was quickly followed by wraps for other confectionery products, Wrigley's chewing gum and a continuing list of volume applications in the food, textile and other fields.

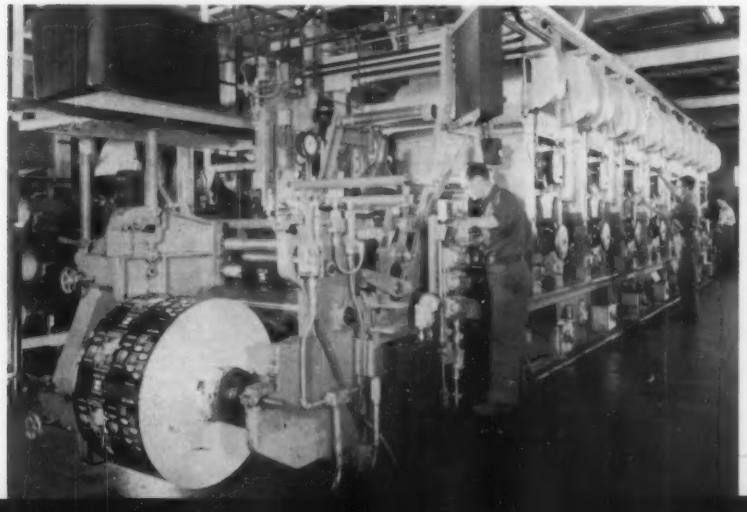
After perfecting the gravure presses and the necessary type of engraving, Shellmar licensed the process under the name Colodense and received royalties from many converters using the technique during the life of the patents.

During World War II, an interesting sidelight was the development of a solvent-recovery program to conserve the scarce ingredients of the quick-drying inks. This technique of reclaiming solvents by reliquefication of volatile elements over the ink fountains has resulted in significant economies.

The gravure process for printing cellophane has provided the basic know-how for all gravure printing on transparent materials. And it has also been adopted by many converters for high-speed quality printing of such opaque materials as paper and aluminum foil. Presses initially capable of printing 7-in.-wide cylinders have given way to those accommodating 72-in. cylinders.

PHOTOS COURTESY DU PONT.

Soft goods *and other candies quickly put to work in the late '30s the merchandising appeal of transparent cellophane film decorated with type, line cuts and color photographs.*



Latest development *in printing cellophane is this modern gravure press at Continental Can's Flexible Packaging Div., Mt. Vernon, O., carrying on the tradition of its predecessor, Shellmar Products Co., which is generally credited with bringing high-speed rotogravure printing of cellophane film to commercial reality.*

Smart symbol appearing on hundreds of private-label packages to boost quality image of 265-store chain impressively reflects philosophy of trade-up in variety retailing

Kress's new

Turquoise and red letter *atop all Kress stores creates a memorable image on the landscape that shoppers quickly associate with the packages designed with the same trademark they purchase inside. Kress's trade-up policies are illustrated, too, by advanced architectural concepts, even to playing fountains as shown in front of new Bradenton, Fla., store.*

On store boxes, *the corporate mark and bright colors establish themselves against varying backgrounds. Variations in stock do not detract from the strength of the pleasing color combination.*

In 31 states across the land, a smart turquoise-and-red letter "K" is bringing a new meaning to packages, store fronts, entrances and exits, windows, selling areas and counters in 265 S. H. Kress & Co. stores. The new symbol—part of an over-all design program to create the quality image of a smart place to shop—represents, perhaps, one of the most progressive steps undertaken so far to reflect the new merchandising philosophy of trade-up and expansion in variety-store retailing.*

According to this new concept, stores along the highway and in shopping centers today must be virtually packages themselves, creating a store image which shoppers subconsciously associate with attractive packages, bearing the same image, that they purchase inside the store.

Convinced of the wisdom of this principle, Kress (17,000 employees; $155-million sales) about a year ago commissioned a leading independent package-design consultant to develop the identifying Kress trademark and to incorporate it in all its private-label packaging. The symbol is already appearing on completely redesigned private-label packaging for 65 different product lines, representing about 350 major items.

"Judging by reactions we are receiving from our store managers, we at Kress regard our new packaging program as one of the most important projects we have ever undertaken to create new enthusiasm among our store personnel and to win greater customer loyalty," says N. L. Jones, in charge of merchandise research and development.

The entire program, of course, centers around the letter "K," which is so distinctively designed that it becomes a registerable trademark, permanently and unmistakably identifiable with the store name. Usually, on each of the packages, the "K" is enclosed in a rectangle on the base of which appears the company name, Kress.

But the packaging program encompasses a great

Printing handled openly *gives full view of shirts. Silhouette drawing of knight on a charger adds meaning to store's Lancelot brand. Essential information is all there, in readable type for all to see. And, of course, all the packages carry the corporate "K" trademark. Less-expensive shirts, which are sold unwrapped, carry simply a sew-in label and tag.*

Clean, quality look *is given to bandage and absorbent-cotton packages by uncluttered new design using the pleasing corporate colors, turquoise and red.*

*See "Whats Happening to the 5 & 10?" Modern Packaging, June, 1959, p. 91.

Selling themes *promote the quality story as illustrated by these sweater bags on which are printed, "a Kress fashion is a mark of quality." Minimum of printing on bags permits shopper to see exactly what the sweater looks like.*

Diagonal design treatment *for sheet and pillowcase packages was inspired by the selling theme, "turn back the covers to Kress quality." Identifying colors distinguish percale items from muslins. Large unprinted areas reveal product colors and patterns.*

deal more than incorporating the store symbol on the packages. Every package is being revamped to convey the Kress quality objective and to perform a better selling function through more attractive appearance and more effective sales messages. The designing is being done department by department, item by item. Best idea of the accomplishment may be gained by descriptions of what has been accomplished for packages in various product lines.

Sheets and pillow cases

It was felt that some copy concept which would directly contribute to the design image was sorely needed on household-domestics packages. The designer suggested the theme, "turn back the covers to Kress quality," which offered an opportunity to imply fine housekeeping and to incorporate an effective diagonal design arrangement.

The captions and theme, as depicted on the back of all sheet and pillow-case packages, is repeated and reflected on sales streamers at the counter.

For instant reference, all pertinent information regarding size, material and type of sheet or pillow case is compactly shown on top, on the front edge and on the end of each package. Identifying colors are used to define percale in soft blue, gold, black and white; muslin in bright coral, gold, black and white. Each sheet and pillow case is visible through the unprinted "turned-back" section of the design on the polyethylene film packages.

Paints

Cluttered and unimpressive old labels were discarded and the entire line of Kress paint packages was upgraded after a design study of competitive labeling and it was decided that the large areas for display of Kress private-label paints offered an excellent chance to make consumers color conscious in terms of brightness and cleanliness.

A theme, "spruce up with Kress quality paints," was selected for use on paint labels and headers on selection charts. On the labels, it is handled in a secondary manner, but placed so that it will be noticed as part of the general impression.

Seven groups of paints are now differentiated by identifying background colors: yellow for quick-dry and spray enamels, black and white for flat finishes, gray for floor enamel, pink for semi-gloss enamel, blue for flat wall finish, peach for vinyl-latex flat wall paint, green for house-paint packages and tan for varnish-stain and spar-varnish containers.

Sweater bags

To permit maximum visibility, polyethylene sweater bags were designed with a minimum of printing. A general caption, "a Kress fashion is a

Effectiveness of new design *is sharply revealed by comparison of new family of paint packages with the cluttered, old-fashioned ones (see inset photo). Seven groups of paints are differentiated by identifying background colors.*

mark of quality," appears on these all-purpose bags with a simple, decorative needle-and-thread motif printed in turquoise, gold and white.

Featured brand name or Kress's own brand is carried on the sew-in neck label on the garment and on an attached card. And, of course, the "K" trademark is printed prominently on all sweater bags.

Shirts

The Kress trade name, "Lancelot," for boys' and men's sport and dress shirts is given new emphasis and recognition in combination with a stylized silhouette of a knight on a charger. The design and printing are handled openly to give a full view of the shirt and collar style. Sew-in garment labels feature the "K" trademark. Less-expensive shirts (sold loose) simply carry an identifying sew-in label, a tag with the "K" trademark and a slogan, "Kress quality means fine tailoring."

Infant items

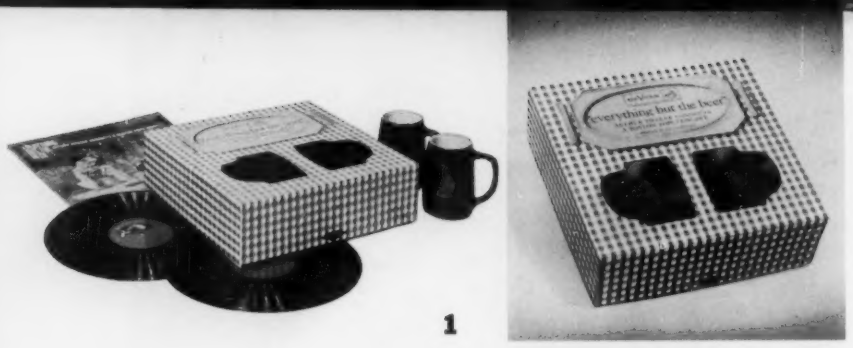
Baby-garment packages are designed to establish quickly through identifying symbol and color a well-defined baby department. An outline motif of a baby rattle and block carries product name and an illustration of the item as it is worn by the child. Although small, each illustration quickly distinguishes each garment so that the shopper knows immediately what each package contains.

Diaper packages carry only the product name in large, lower-case lettering along with the Kress "K." Two-color-printed rectangles on the cellophane specify quantity, size, material and a selling message, "longer wearing, faster drying, more absorbent."

Similar upgrading and improved packaging is going on in a number of other product lines. Using the corporate colors, turquoise and red, the designer has given packages for first-aid bandages and absorbent cotton a clean, [*Continued on page 226*]

SUPPLIES AND SERVICES: Design program by Robert G. Neubauer, Inc., 234 Greenfield St., Fairfield, Conn.

Baby department *is well defined by packages bearing a baby rattle and block motif. Small outline drawings within each block tell the shopper immediately what each package contains. And the "K" is always there to associate the merchandise with the Kress image. Diaper packages carry only product name along with the "K," but with bold emphasis on product quantity, size and material, and the Kress quality story.*



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PACKAGING PAGEANT

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1 A unique tie-in promotional package by RCA Victor and Anheuser-Busch is reported to have started with one of the biggest initial orders in Red Seal record's history. In a colorful red-and-white checked window box are RCA Victor's Boston Pops 75th anniversary album, "Everything But the Beer," and two red-glazed beer mugs bearing the Budweiser name and special Boston Pops anniversary inscription. Full-scale promotion planned for the package includes TV, radio, newspapers and national-distribution magazines. Carton, West Virginia Pulp & Paper's Hinde & Dauch Div., Sandusky, O.

2 A dozen five-packs fit piggyback on top of an open box of 50s in this compact unit by E. Regensburg & Sons for its newest cigar, the Medalist "Matador." Inner lid of the 50s box is visible through a die-cut opening in the paperboard display that gets 110 cigars into only 8½ in. of counter space. **Display, Modern Star Display, Brooklyn.**

3 Union Carbide's Visking Co. now merchandises its Visqueen polyethylene film in dispenser-type consumer cartons. Formerly cut to order for customers, the film—in rolls 50 ft. long, 3 to 20 ft. wide and 4 to 6 mils thick, in either black or natural—is available at variety, hardware and department stores, as well as lumber yards. Cartons, Inland Container Corp., Indianapolis, Ind.

4 Multiple packaging has been extended to the horticultural field by the Willis-Reynolds Corp. with this carry carton that affords a billboard display area for 12 square-shaped Jack Pot flower pots. The carton, made of one continuous strip of paperboard, has open ends; die-cut wedges top and bottom hold the stacked pots snugly in place. Design, King-Casey, Inc., New York. Carton, Diamond National's Gardner Div., Middletown, O.

5 Top of this 50-lb. bulk carton may be used as a hinged cover or a carrying tray for Varn Products Co.'s non-offset spray powders used by the commercial- and package-printing industries. The corrugated container has a reinforced liner and opens with a tear tape 3½ in. down from the top. Product is packaged in a heavy-gauge polyethylene inner bag. Carton, Container Corp. of America, Chicago.

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6 New pull tabs on Armour & Co.'s Miss Wisconsin wedge-shaped cheddar-cheese packages are said to permit easy removal of the wrap without tearing and to enable unused portion of cheese to be rewrapped for continued freshness and flavor protection. An ample overlap is provided for easy and complete reclosure. Consumer tests reveal that 93.7% of housewives interviewed found the package easier to open than customary cheese packages, says Armour. Both wrap and tear tape are made of saran, the tear tab in heavier gauge. Wrap and tear tab, Dow Chemical, Midland, Mich.

7 Four healthy-looking youngsters featured on the front of new packages for Pet Instant Nonfat Dry Milk create the basis for Pet Milk Co.'s new "personality marketing" program. Photographs of the "personality package family" are five-color rotogravure printed on overwraps comprised of 30-lb. sulphite paper laminated to 0.00035-in. foil with 10 lbs. of polyethylene and overwaxed on both sides. "DM-56" overwraps, American Can's Marathon Div., Menasha, Wis. Pour spout, Seal Spout Corp., Mountainside, N. J.

8 Double windows are die cut in the front panel of the Lotus Cakes Co.'s new fortune-cookie cartons, printed in brilliant pink, yellow-orange and black, now redesigned for mass distribution in supermarkets. The cookies are in an inner bag of heat-sealed cellophane. Carton, Western Paper Box, Oakland, Calif. Bags, Hobar Co., Redwood City, Calif. Heat sealer, Ralph Chaffee, San Francisco.

9 Not garden seed, but books on gardening are in this colorful corrugated display-shipping carton. Affiliated Publishers uses this compact unit to merchandise a handbook on gardening and outdoor living, entitled "The Golden Garden Guide." Carton, Owens-Illinois' Paper Products Div., Toledo.

10 Metalized glassine is now used by the New England Confectionery Co. as a candy packaging material for 5-cent Necco Mint Patties. The wrap, gravure printed in bright red on the aluminum coating, combines glassine's protective qualities with the brilliance of aluminum. Wrap printed by U. S. Envelope, Springfield, Mass., on glassine metalized by Vaculite, Cambridge, Mass.

Volume use for plastic

Helene Curtis's transparent tetrahedrons for portion-packed shampoo are formed, filled and sealed on high-speed machine and marketed singly or in unique six-unit carded blister pack

Single-use packages of egg shampoo that reap the triple benefits of an economical tetrahedron structure, the sales appeal of transparent film and visible blister display have been introduced by Helene Curtis Industries, Inc., Chicago (1,500 employees, $48,000,000 net). Marketed both individually in dump displays and in blister-packed, hang-card groups of six, the new four-sided film "pyramids," called "Shampoofs," have controlled head space, registered printing and a tear-tab opener. With this major invasion of a mass market, huge new opportunities may now develop for this tetrahedron.

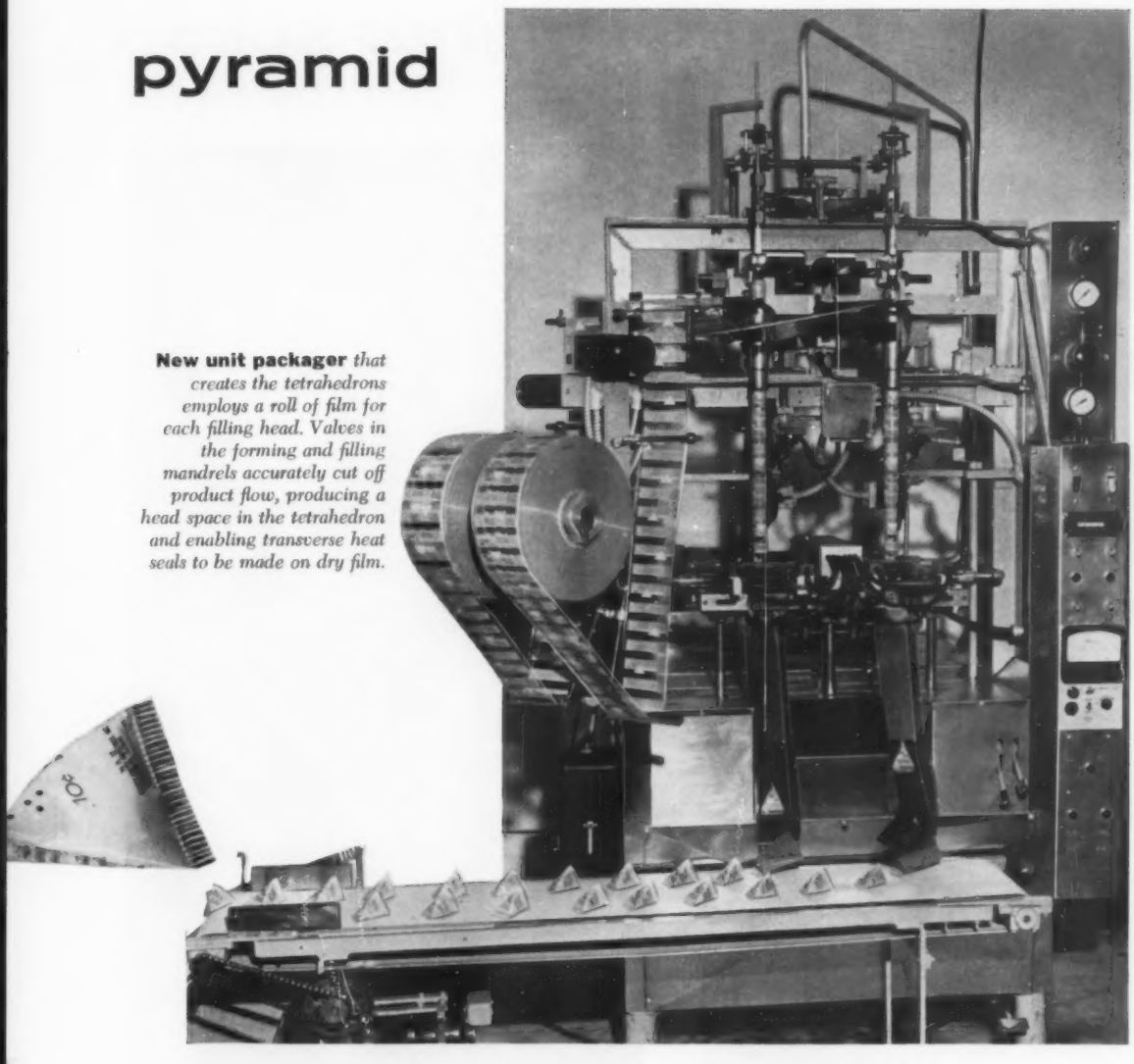
Materials savings for the ½-oz. container are said to be 55% over a comparable flat pouch. Tetrahedrons in other sizes, reportedly, may show savings of from 40 to 60% when made by new techniques developed for film tetrahedrons.* These cost savings are further enhanced by the high-speed operation of a twin-head machine capable of turning out from 140 to 250 packets per minute, depending on type of product and size of pouch. The Helene Curtis container is formed, filled and sealed at an economical 180 units per minute. Unique product cut-off features enable the transverse heat seals to be formed between dry film surfaces, rather than through the product, thus equipping this machine for both liquids and solids. The longitudinal heat seal is a folded, fin-type closure, permitting use of low-cost, one-side-coated films that further reduce packaging cost. Development of this machine with its compact and unusual mechanical action is thought to open up such broad product fields as foods, drugs and hardware to tetrahedral packaging.

Helene Curtis reportedly pioneered the packaging of single-use shampoo packages in flat pouches for

*See "Ideas In Action," MODERN PACKAGING, Oct., 1959, p. 123.

Half-ounce portion packs *of egg shampoo in new, transparent film tetrahedrons are blister packaged in groups of six for hang-card display, or are sold individually in an acetate dump display. Note that registered printing on the individual tetrahedrons (above) creates a top and bottom for the package. The container is ripped open by a tear tab and can rest on its base during use. Longitudinal seam (far right) is folded, but lies flat after the package is formed.*

pyramid



New unit packager *that creates the tetrahedrons employs a roll of film for each filling head. Valves in the forming and filling mandrels accurately cut off product flow, producing a head space in the tetrahedron and enabling transverse heat seals to be made on dry film.*

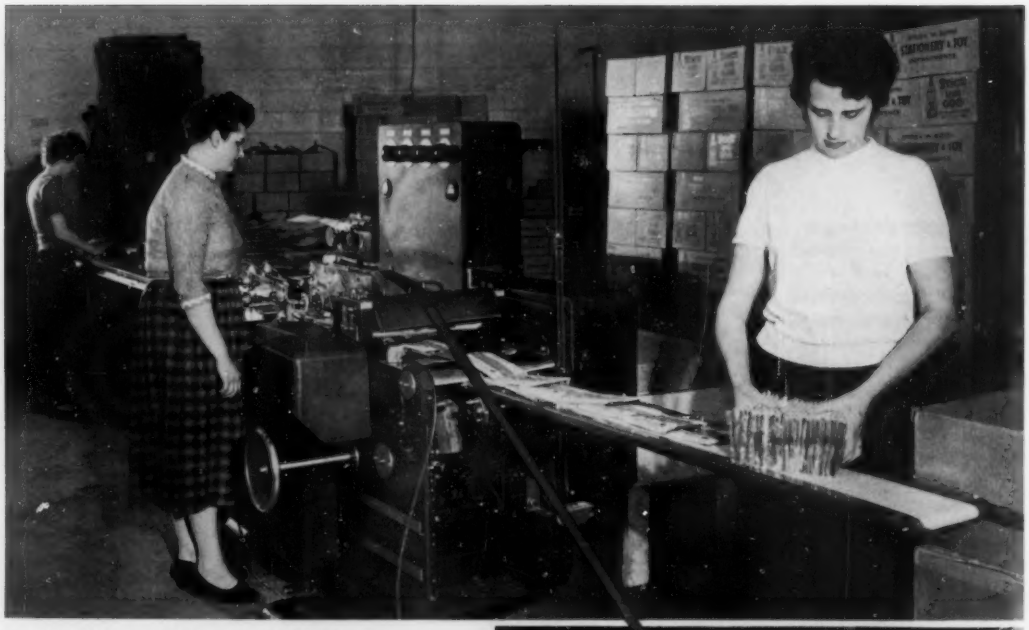
samples in the early 1950s. However, tetrahedrons utilize film more efficiently than do flat pouches—enclosing more volume per square inch of material—and thus make the new pack more profitable for retail use. Printed in gay, feminine colors, the new container is fabricated from 450-gauge cellophane, extrusion coated with 2½ mils of polyethylene, and is said to be very strong.

Convenient for use in showers and for week-end trips, the unbreakable package also eliminates the waste in careless pouring from a standard bulk container. Each tetrahedron contains enough shampoo for two sudsings. The package is opened by tearing off a colored triangle at the upper corner. And because the opening is above the level of the liquid, the tetrahedron can rest on its base like a bottle, without spilling, when either full or half empty.

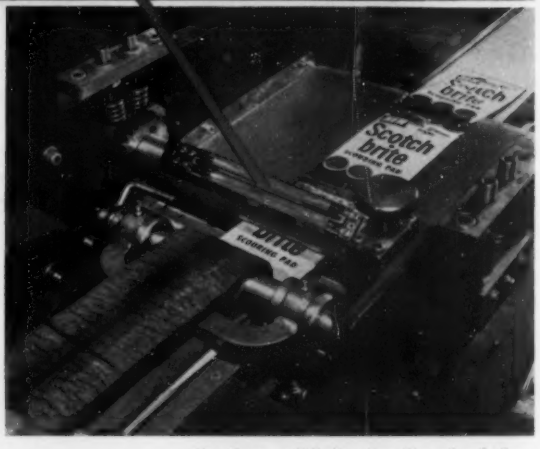
While paper and paper- [*Continued on page 233*]

SUPPLIES AND SERVICES: "Ultra-Pak" plastic-film tetrahedrons and packaging machine by William Steven Co., 2520 San Fernando Rd., Los Angeles 65. "Durafilm" polyethylene-coated cellophane by Dobeckmun Co. Div., Dow Chemical, 3301 Monroe Ave., Cleveland 13. Acetate for blister by Celanese Corp., Newark 2, N.J. Blister forming and sealing machine by Packaging Industries, Montclair, N.J. Cards by Excello Press, 400 N. Homan Ave., Chicago. Acetate display by Weinman Bros., 3260 W. Grand Ave., Chicago 51.

Higher speed



Horizontal machine *to form, fill and seal pouches has modified forming and sealing devices (center) to handle polyethylene packaging of household scouring pads. Product is hand fed at left. Control box (center) provides individual regulators for warming and running each low-voltage hot wire on unit's rotary cross sealer (photo, right). Speed of 140 per minute is believed to be a new high.*



Sealer *modified to handle polyethylene comprises knife and anvil between hot wires that replace conventional crimpers used for cellophane. Mounted in rotating shaft, knife and anvil strike once each revolution to seal and sever pouches, which are conveyed to right.*

Finished pouch *for Minnesota Mining's new household product has four-color face, sell copy and instructions on reverse side.*

with polyethylene

Modified former and sealers, and use of low-slip film enable horizontal unit to form, fill and seal Minnesota Mining pouches at 140 per minute—double the previous limit of this thermoplastic

A new horizontal film-pouch form-fill-seal machine has demonstrated unusual speed in its first big run on 8,000,000 nylon-web scouring pads contract packaged in 1.5-mil printed polyethylene for Minnesota Mining & Mfg. Co. The line averaged 120 units per minute for the 4½-by-7-in. pad and ran for long periods at 140 units per minute, according to Minnesota Mining officials.

This is believed to be a new high for pouch packaging in printed polyethylene, about doubling the 60-to-80-per-minute speeds of other horizontal machines handling this thermoplastic material. Similar machines handling cellophane are rated at from 250 to 300 per minute.

This new facility in handling polyethylene is credited to these important advances:

1. A rotary cross sealer basically similar to those previously used for cellophane wrappers but having, instead of conventional crimpers, two hot wires with complex heat controls that maintain a uniform sealing temperature at high speed. There are no chain sealing devices employed in this operation.

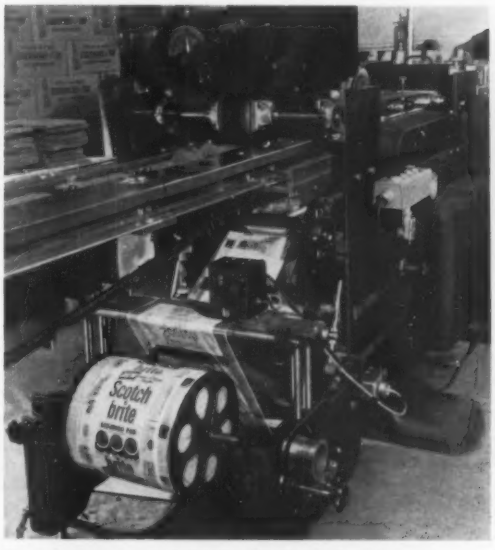
2. An improved driven rotary tube sealer counterbalanced so that dwell time, temperature and pressure are all strictly and accurately controlled.

Also important is said to be the specification of low-slip polyethylene. Most resin producers have been putting slip agents into polyethylene film to prevent blocking. For use on this high-speed sealer, the machine manufacturer considers slip agents more of a detriment than a help because they tend to give erratic seals. The contract packager's experience corroborates this finding.

The 3M package has a lapped under seal and end seals extending about ¾ in. beyond the product's long dimension. The wrap, while not skin tight, is taut enough to prevent wrinkling.

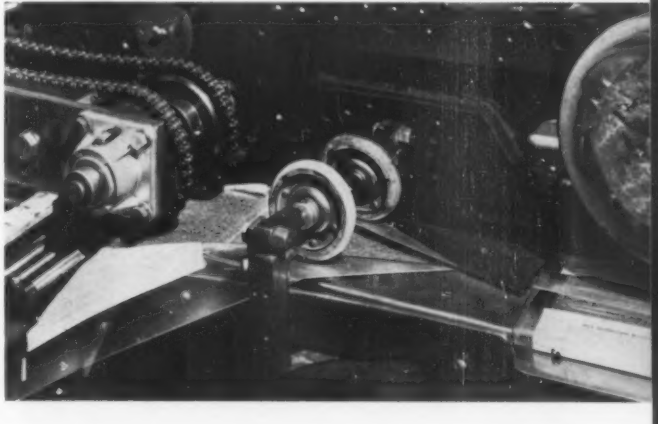
Both the scouring pads [*Continued on page 230*]

SUPPLIES AND SERVICES: Contract packaging by Beco Laboratories, 352 N. Fairview Ave., St. Paul 4, Minn., on Model 2W8-P wrapper by Hudson-Sharp Machine, Green Bay, Wis., using Visking's polyethylene printed by Cell-o-Vision, 137 E. Island Ave., Minneapolis, on Hudson-Sharp single-impression drum printer.



Pouch former *is fed 1.5-mil polyethylene from parent roll positioned beneath and slightly forward of machine for easy access. Scouring pads are conveyed beneath flat-top chain in preparation for pouch forming.*

Inverted former *is designed to increase the control of such limp films as polyethylene at high speed.*



Roll-fed liners save on labor

Elimination of a packaging-line bottleneck at a 67% saving in labor cost is reported by Cotto-Waxo Co., St. Louis, since switching to perforation-joined, roll-fed polyethylene liners for corrugated cartons and fibre drums. The company, a packager of industrial sweeping compounds, had been using individual polyethylene bags put up in bales. Cotto-Waxo points out that these individual liners were difficult to handle. They often would slide to the floor, causing unnecessary waste. Also, polyethylene's tendency to cling made it difficult to open the mouth of the liner.

These time- and money-consuming problems have been eliminated with the adoption of roll-fed liners, says the packager. Mounted on a simple pipe rack, the liners are easy to dispense. The worker reaches up, pulls a liner down over a forming mandrel and strips the liner from the roll. (Tearing action is reported to open the mouth of the next bag in the roll, for additional speed and convenience in liner application.) The lined mandrel then is inverted and seated in a drum or carton. Removal of the mandrel leaves the liner securely in place. *Roll-fed polyethylene liners by Bemis Bro. Bag Co., 111-H N. Fourth St., St. Louis 2.*

COST

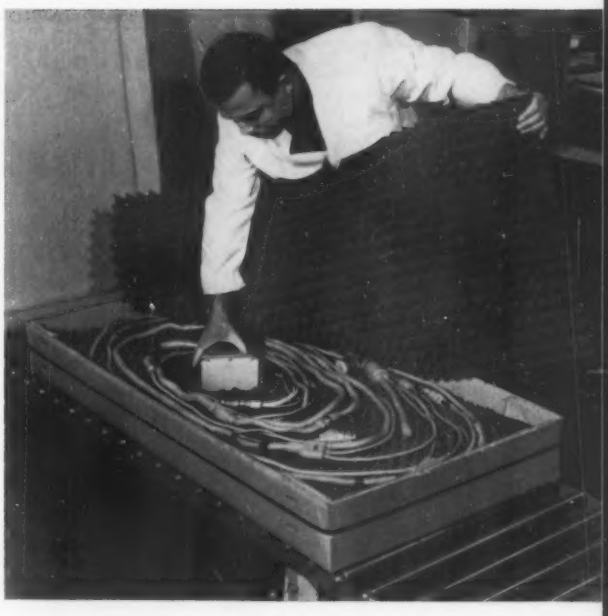
Cost reduction with bonuses

It often happens that a cost-cutting packaging innovation brings with it the bonus of greater product protection. But Bell Research, Inc., East Liverpool, O., reports that in addition to these benefits it has achieved a neater packaging operation and the elimination of a fire hazard.

A supplier of raw materials to the ceramics industry, Bell recently decided to revamp its method of packaging pyrometric cones. These fragile items, used in the measurement and regulation of ceramics heat treatment, were packaged in sawdust-filled cartons. Although sawdust served the purpose of protection, says the company, it was bulky and messy to handle (both at the packager level and at user plants). Its flammability also posed a constant threat of fire, since the product is used in heated areas.

The company now is using non-flammable sheets of creped cellulose wadding for in-carton product protection. Bell says the lightweight material has permitted a 33% reduction of carton size and has slashed shipping weight in half. In addition, the convenient-to-handle wadding reportedly has cut packaging-labor cost by 30%. *"Kimpak" creped cellulose wadding by Kimberly-Clark, Neenah, Wis.*

Critical part shipped for less



Nowhere is the need for top-performance protective packaging more critical than in the Government's missile program. When such performance is achieved at a 44% reduction in packaging-material cost and a 55% reduction in shipping cost, the story of *how* should interest many packagers.

Emerson Radio & Phonograph Corp., Jersey City, manufactures a costly signal-transmitting harness for the Atlas missile. This delicate component formerly was packaged for shipment in a heavy wooden box. As the number of shipments increased, Emerson packaging engineers sought a way to cut shipping-container costs without reducing the performance factor. The company found its solution in the combination of a strong triple-wall corrugated-board box and low-cost, high-protection interior cushioning. After set-up of the telescoping shipper, the harness component is "sandwiched" between two sheets each of rubberized hair and resilient polyurethane foam. Cover is applied and the box is steel strapped. *"Tri-Wall-Pak" corrugated shipper by Tri-Wall Containers, 799 Washington St., New York 14. Polyurethane foam by Shelley Co., 5112 W. Jefferson St., Los Angeles. Rubberized hair by Armour Alliance Industries, Alliance, O.*

CUTTERS

Tripled speed at a 50% saving

Triple the sealing speed at half the cost in labor and materials. Such is the performance reported by the Maybelline Co. since adopting power-driven semi-automatic stapling machinery for closing the bottom flaps of corrugated shipping cartons. This Chicago-based packager of eye-beauty products uses the new equipment to assemble all of the various sizes of shipping containers in its cosmetics line.

In the company's former operation, carton bottoms were manually sealed with gummed asphaltic-paper tape. It was a slow process which needed the attention of several workers to keep pace with production schedules, the packager says. The new semi-automatic stapler, which occupies half the floor space required for tape sealing, reportedly enables one man to keep up easily with a day's production. The foot-pedal-controlled unit holds 4,000 staples on a reel, to minimize down time for reloading. Another time saver, says the user, is the machine's deep-throat construction, which permits the operator to seal the shipper's bottom in one straight pass, without having to stop and reverse the position of the container. *Model FC95 "Golden Belt" stapling machine by Bostitch, East Greenwich, R.I.*

Bagging sweeps the textile field

Makers of sheets turn to prefabricated polyethylene-film package as efficient loading and automatic sealing techniques create big savings in packaging and an improved appearance

Bagging is fast *with electrically operated semi-automatic loading device. Operator is shown at Dan River Mills preparing to insert folded sheet in polyethylene bag. As right hand reaches for sheet, left hand puts bag over loading horn. A jet of air automatically opens bag so that sheet may be thrust into it. Filled bags make their way by conveyor to sealing unit.*

In less than two years, the household-textiles industry almost unanimously has shifted from film wrapping to a completely new technique of packaging sheets and pillow cases in prefabricated, printed polyethylene-film bags.

Efficient bag-loading devices and high-speed bag-sealing machines have brought to this field automatic packaging that reportedly is providing an efficient solution to the difficult problem of accommodating the complexity of dimensions, styles and thicknesses of folded sheets, along with economies and improvements in package appearance heretofore unattainable by wrapping methods.

The development, already involving more than 25 installations in the sheet and pillow-case business and, according to one estimate, calling for more than 50 million bags per year, is another example of how a new approach, completely different from the accepted concepts, can benefit the packaging operations of an entire industry.

An important contributing factor to this innovation, of course, is the now almost universal acceptance of the "measured fold"—a procedure for folding sheets and pillow cases to standard lengths and widths, regardless of product dimensions. This permits all units to fit in only four or five different-sized bags. For years, progress toward general application of automatic packaging operations for sheets and pillow cases was unnecessarily retarded by this wide diversity in product sizes.

In 1957 Springs Mills* and a few others started using gusseted polyethylene bags, sealing them with semi-automatic equipment. This packaging technique offered its users a number of advantages:

- It provided a neater package because (1) printed design could be positioned more precisely, (2) the gusset assured squared-off corners and (3) the single seal to close the bag eliminated three unsightly sealing points on the back, necessary to secure the four folds of the former wrap.
- It went a long way in offsetting the cost of additional packaging material and labor necessary for the change-over from two-sheet to one-sheet packaging—now a generally accepted merchandising unit in household-textiles packaging.
- The sealed bag, it was found, also reduced human error in semi-automatic packaging and thereby assured improved quality appearance of the package with faster, more efficient packaging.

Subsequent experience by firms installing automatic bag-sealing equipment reveals further economies. While prefabricated, printed bags alone cost more than film wraps, elimination of U-boards or stiffeners of any kind in bag packages represents almost 50% savings in cost of packaging materials on quantity purchases. (The supplier of bag-sealing equipment estimates prefabricated, printed polyethylene bags for sheets cost $12 to $14 per thousand, whereas U-boards [$18 per M] plus film wraps [$8 per M] average about $26 per thousand.)

Textile firms that have installed the new automatic bag-sealing equipment reportedly have increased output with about one-third the capital in-

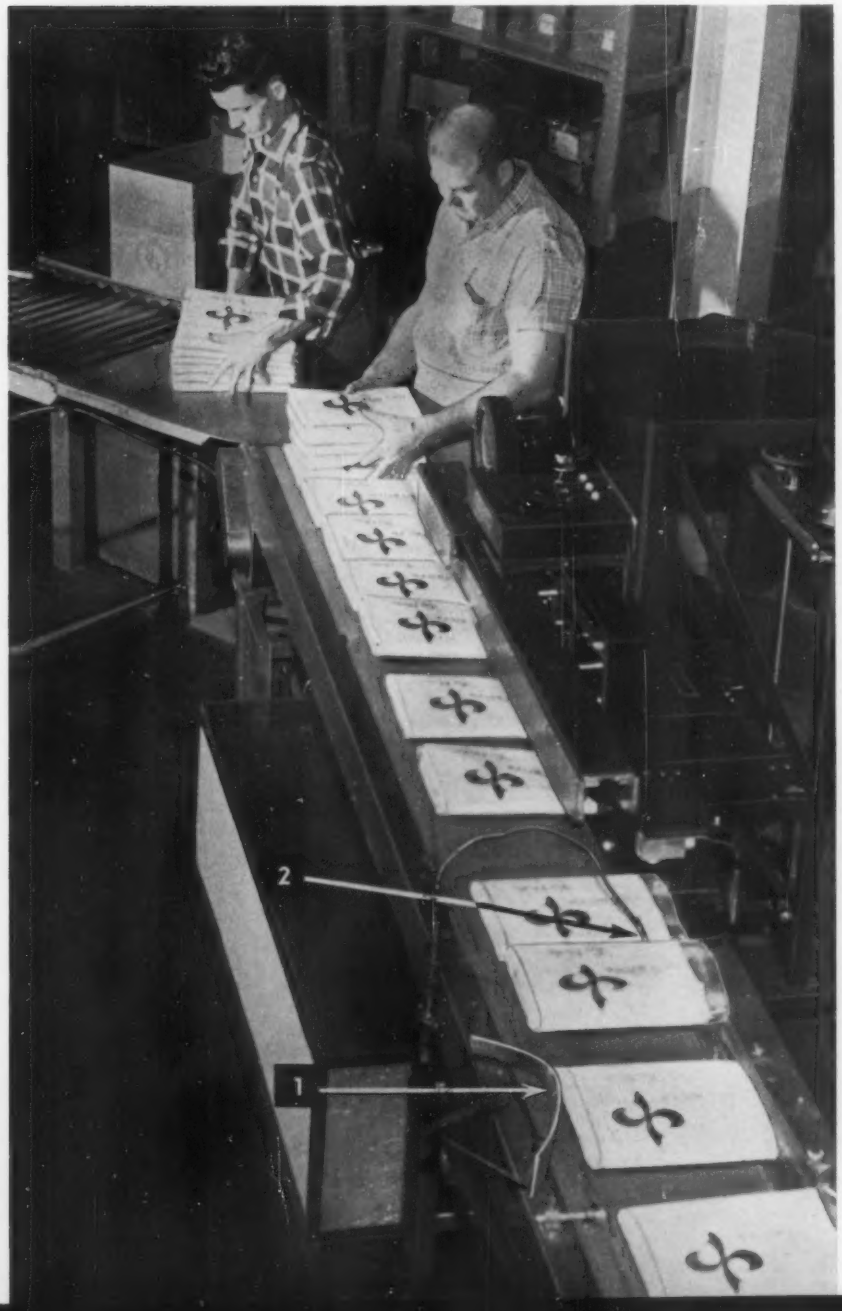
*See "Bagged Sheets," Modern Packaging, Feb., 1958, p. 113.

vestment of that required for wrapping equipment utilized for a comparable operation.

Dan River's experience

A typical case history is the operation at Dan River Mills, Inc., Danville, Va., reportedly one of the three leading producers of domestics and first to install the electrically operated bagging devices and automatic bag sealers. Due to the extremely competitive nature of the industry, a major factor in computing unit costs is packaging, according to Dan River. To obtain greater efficiency, the company began experimenting with polyethylene bagging about the middle of 1957. Previously, this firm had been wrapping sheets and pillow cases in polyvinyl-chloride film, using U-boards for firmness.

Polyethylene bags, it was felt, offered possibilities for a neater and more merchandisable package, with potentials for economies. Electrically operated loading devices already available provided the method for inserting the sheet or pillow case into the bag with minimum effort and maximum speed. An op-



Automatic sealer *makes single seal and trims off excess polyethylene as bags travel by conveyor in Dan River plant. In foreground may be seen: (1) straightening device mounted on a spring which presses gently against the bag so that it will remain exactly square on the belt; (2) a nozzle which emits a stream of air so that the portion of the bag to be sealed will be straight out as it enters the sealing unit. Sealed packages are picked up and loaded into shipping cases.*

erator simply slides the folded product across a smooth surface into a guide (two horns protruding at an acute angle from the bag opening) and into the polyethylene bag, which is opened by means of an air jet as it is positioned by hand.

The problem of sealing the mouth of the bag was not solved so quickly. At first a hand sealing iron was used, but this was slow and clumsy, and produced a package that lacked a neat appearance. The sealing iron was abandoned in favor of a hotplate, but this was not satisfactory, either.

Finally, a Dan River representative attending a packaging show saw a sealing machine developed for this purpose. He was so impressed that he purchased it on the spot and Dan River thus became the first company in the household-textiles field to install and utilize an integrated bagging line for packaging sheets and pillow cases.

In the final packaging procedure, an operator thrusts the measure-folded sheet into the bag by means of the loading device and continues a forward motion which transfers the bag to a conveyor belt. On the conveyor, the filled bag is carried between two guide rails, which tend to keep the bag at right angles as it approaches the automatic sealing unit. As the bag emerges from the rails, a straightening device mounted on a spring presses gently against the bag so that it will remain exactly square on the belt. At the same time, a stream of air is emitted from a nozzle so that the portion of the bag to be sealed will be straight out as it enters the sealing unit. (The air-nozzle arrangement is a modification developed by Dan River.) After the ends are automatically sealed, excess film is trimmed off and blown into a box beneath the unit. The completed packages are picked up manually by the operators and placed in shipping boxes.

This new packaging procedure, says Dan River, was made markedly easier by the "measured fold" the company adopted some years ago. Dan River now manufactures six types of sheets which range in width from 54 in. to 108 in. and in length from 90 in. to 122½ in. Regardless of size, however, the final fold in every case measures exactly 9 by 11 inches. This permits the use of only three different-sized bags for sheets (9½ in., 9¾ and 10 in.) and two different-sized bags for pillow cases (6½ and 6¾ in.) to accommodate various thicknesses.

Although Dan River has revealed no actual production figures, the company reports that the change-over to bag put-up for sheets and pillow cases, and the use of the bag loaders and sealers have permitted substantial improvements in the efficiency of the entire packaging operation, with significant reductions in packaging costs. "This is true not only because fewer people are required to perform the packaging operation," according to the company, "but because a larger number of sheets and pillow cases can be packaged in a given period than under the previous system."

Since the Dan River installation, the new automatic method of bagging has been adopted by all the major producers of domestics: Springs Mills, J. P. Stevens, Pacific Mills, Pepperell, Postex Mills, Irwin, Commander Mills, Thomaston Mills and others. Cannon, which is still using wraps and U-boards for percales, has also converted to the automatic polyethylene bag packaging for its muslins.

SUPPLIES AND SERVICES: Automatic bag sealers by Amsco Packaging Machinery, 31-31 48 Ave., Long Island City 1, N. Y. Loading devices by Tele-Sonic Packaging, 208 W. 27 St., New York 1. Dan River's polyethylene bags by Package Products, Charlotte 1, N. C., and Lassiter, 350 Fifth Ave., New York 1.

Measured fold *is a key factor in bagging operation. Regardless of differing dimensions, all sheets and pillow cases are folded to standard lengths and widths. This permits all units to be packaged in just three sizes of bags for sheets, two for pillow cases, depending on thickness.*

"Knox light-weight bottles average 30 round trips," says production director of leading brewery

"Because the package is so very important in selling beer," says the Director of Production of one of the nation's fastest growing breweries,* we stay right on top of our package suppliers—and use only the best.

"The glass bottle is our most important package. Most people prefer to buy beer in glass, and glass is the most economical package to use.

"This is especially true now that we have the freight-cutting, lighter-weight, returnable and non-returnable bottles. Even with their lightness, these bottles still have the quality and strength to stand up to the beating our high speed production lines give them. We have to average about 30 round trips per returnable bottle—so breakage must be very low.

*Name available on request

"Knox Glass has been one of the leaders in furnishing us these light-weight bottles. And it is apparent to us that what Knox has taken out in weight they have put back in terms of uniformity and consistency of glass manufacture.

"Knox is also one of the major suppliers of our new low-cost, non-returnable, Glass-Can bottle (GCMI-168) which combines the advantages of metal with glass.

"We use glass because it is the best package. We use Knox because they furnish it promptly, with high quality, and with excellent service."

Find out how "the new/Knox Glass" can serve you. Contact Knox, Pa., headquarters or any one of 37 sales offices throughout the nation.

the new / **KNOX GLASS**

use this page to develop an idea in 60 seconds

The Polaroid Land camera has had phenomenal sales success. It is expertly designed . . . the materials and workmanship are the best. Now, even the package is something special. The camera and accessories are cushioned in a seat of DYLITE® expandable polystyrene.

DYLITE's unique combination of properties—lightweight, shock resistance and easy moldability to any contour—make it the ideal choice for the variety of platforms and inserts used in Polaroid packages.

Additional properties of strength, water resistance and insulation have made DYLITE a leading choice of package designers in a wide variety of industries. Chances are it can make an excellent improvement in *your* package.

(60 seconds are up. Did you get an idea? Write to Koppers Company, Inc., Plastics Division, Pittsburgh 19, Pennsylvania.)

Offices in Principal Cities • In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

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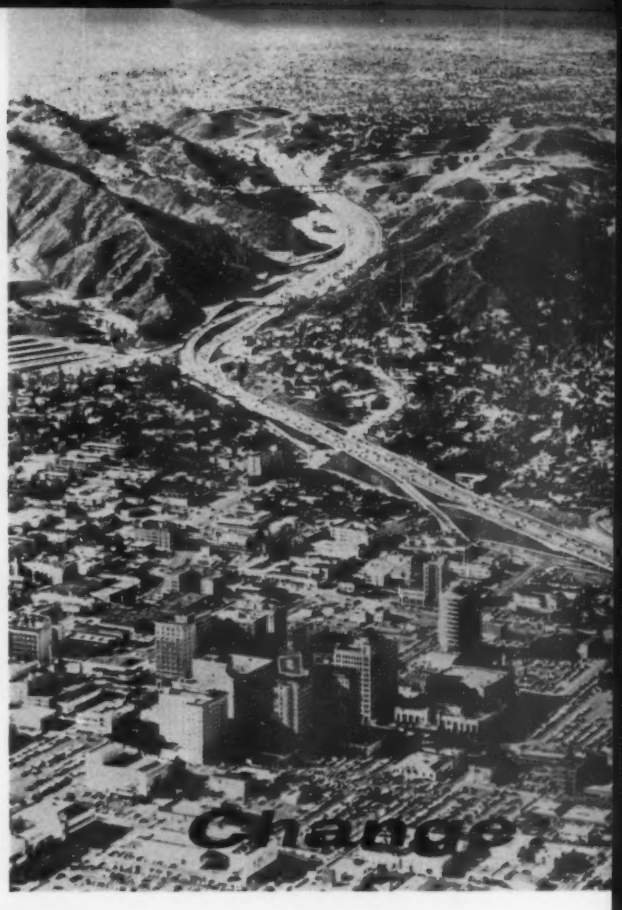
DYLENE® polystyrene, SUPER DYLAN® polyethylene and DYLAN® polyethylene are other fine plastics produced by Koppers Company, Inc.

MODERN PACKAGING

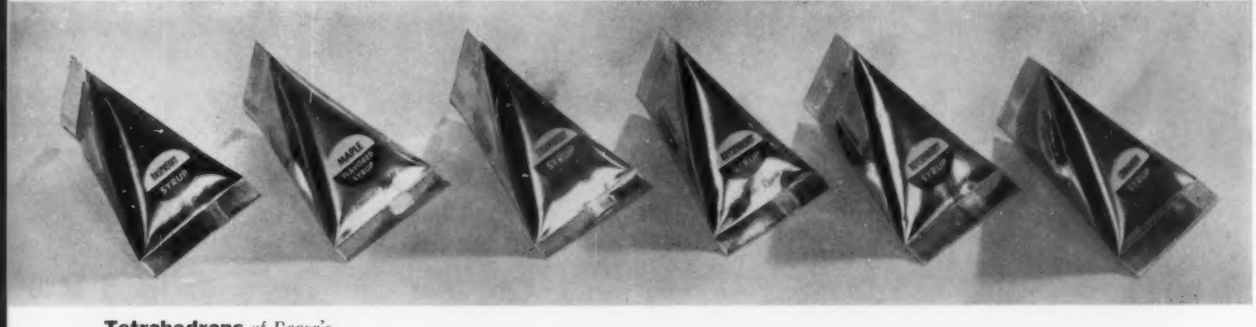
WESTERN STATES SECTION

July 1960

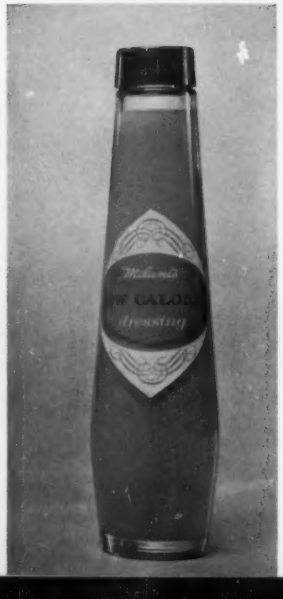


Expansion *is a way of life in the West. Here, the Hollywood Freeway snakes its way to the lush San Fernando Valley.*

Pressured in their growing home market by out-of-state competition. packagers in the area's 11 states are pioneering new concepts that reflect the vitality of the West



Tetrahedrons *of Reese's flavored pancake syrups are further multipacked in blisters. Contract packaging by William Steven Co.*



Slender shape *suggests low-calorie character of Milani dressing. Design by Jerome Gould.*

Bonus *of two steak knives with Paul Masson Burgundy to encourage the serving of wine at barbecues.*

Polyethylene bags *protect mailed copies of Sunset magazine.*

Bone china bottle *for Kahlua liqueur is set off by hexagonal folding carton. Design by Sheldon Marks and Howard Blonder.*

High-fashion shakers *in four colors with rotating dispenser for Leslie Salt.*

the mark of the West

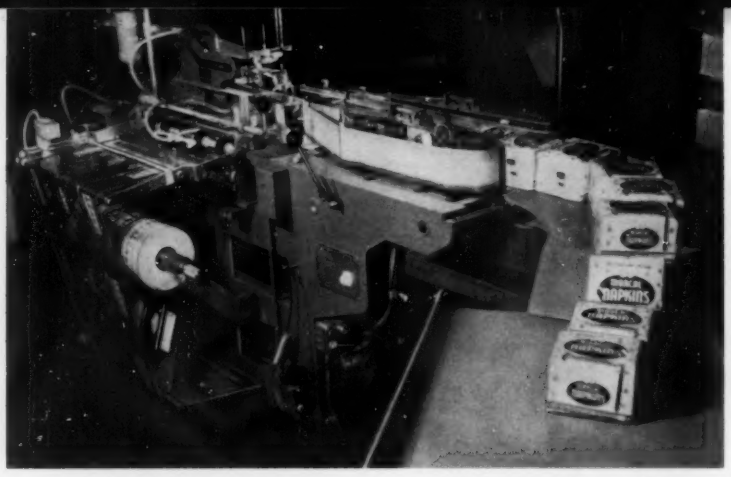
To describe the Western United States simply in the burgeoning statistics of population gains and industrial growth is to accent the obvious. At the moment, too, it may be somewhat inexact. For now coursing through the electronic maze of the Federal Government's data-processing machines is 1960 Census information that will pinpoint the actual strength of the 11 Western states and will undoubtedly prove anew that here is the growth market of the future for almost every area of industry—and particularly for packaged goods.

Yet this is not a market just to be plucked by out-of-state competitors. Local and regional packagers, package designers and package suppliers long ago served notice that this is their home market which they intend to serve with parochial pride and a feeling that they best know what will appeal and sell west of the Rockies. New concepts in package design, package construction and package display, buttressed by regional research to document the preferences of Westerners, is evidence that the West is increasingly putting its own brand on packaging, not only to serve this 11-state area better, but to help set a new pace for packaging throughout the nation, just as the West is now pacing all other sections of the country in physical growth.

A hint of the bigger-market-to-come in the West may be found in pre-Census data recently issued by the Department of Commerce that underscores a continuing and widespread population redistribution with an undeniable Western flavor. As recently as 18 months ago, the West's gain of 29% since 1950 was twice the national average. Arizona and Nevada led with 50% increases, California (soon to be established as the most populous state) was up 35%, with New Mexico, Colorado and Utah ahead of the nation's average by 25%.

In fact, one has only to approach any Western metropolitan center by air and sight the thousands of square miles of new homes, new factories, new highways and new marina to recognize that here is evidence of a home-grown residential and industrial explosion still in its early stages. This is an explosion with a promising future. From one Western center to another there is a common factor that sets this expansion apart from a somewhat similar, but much more restricted growth elsewhere.

Unlike older sections of the country, the pattern in the West can be expanded a hundredfold in the limitless plains and valleys that are being opened to productive use with the advent of two essentials —water and power. Already, these have turned semi-arid coastal valleys into lush farmlands and bustling rural communities, and converted small towns into busy cities. With such nuclear-power stations as the one now located at Bolinas Bay



PHOTOS COURTESY UNION CARBIDE PLASTICS

Polyethylene film wrap, *newly used for Marcal napkins, is said to give superior protection against climatic effects. The packager, Pomona Paper Products, Pomona, Calif., also reports that soft texture of the film is "an important sales feature" and that packaging costs are expected to decrease. Packaging speed is said to equal the former rate with cellophane. Wrapper by Hayssen.*

(Calif.) on the verge of economic competitiveness, the next generation in the West need anticipate no curtailment to further continued development.

Western Packaging Show

That growth is part of Western packaging will be demonstrated this month when the biennial Western Packaging & Materials Handling Exposition returns again to Los Angeles. Existing records in attendance and exhibits (set in 1956 at the same site) are expected to be broken during the eighth show's July 19-21 run at the city's Pan Pacific Auditorium —tribute to the increased importance of packaging from the Rockies westward and to the competitive effort of local, regional and a larger number of national packaging-supplier companies to snare a bigger share of this market.

Out of the economic and sociological changes evident in the West come two forces important to packaging. One is the region's inclination to draw, like other parts of the country, closer to the influences, patterns and practices of the East as communication and jet transportation increase. The other is to diverge and, with the traditional vitality of the West, to establish unique patterns.

An important fact about the West that Eastern packagers and distributors should appreciate is that the West has an aggressive freshness of viewpoint that lingers on drawing boards only long enough for the ink to dry before it is put into execution.

Western packaging pioneers

Witness the fact that in at least six significant packaging areas the West is showing the way.

1. In *plastic films for bread*, it was the Fluhrer Baking Co., Eureka, Calif., that showed the country the first practical commercial application of medium-density polyethylene film for wrapping bread, a development[1] that takes on new significance today because this triumph in the packaging of such a soft product indicates that obstacles to automatic plastic-film wrapping of other products may soon be overcome. In fact, Pomona Paper Products, Inc., Pomona, Calif., is now wrapping its soft Marcal napkins in polyethylene film at speeds reportedly equal to its former rate with cellophane.

2. In *aluminum cans*, it was the Adolph Coors Co., Golden, Colo., part owner of Aluminum International, Inc., which helped introduce the impact-extruded aluminum can to the brewing business through the Hawaii Brewing Corp. to which it supplied aluminum slugs and lids.[2] A few months later Coors followed that success with the debut of a similar container for its own brand, the first aluminum-canned beer in the domestic U.S.[3] Now Aluminum International is getting into production a high-speed extrusion press to produce aluminum beer cans at the rate of 120 per minute, twice the former speed, and they are said to be fully competitive with three-piece tinplate cans.[4]

And it is Blue Lake Packers, Inc., Salem, Ore., which pioneered frozen strawberries in aluminum, one of the first frozen foods in this type of can.[5]

3. In *water-soluble packaging*, Techno-Economic Services, Inc., Los Altos, Calif., marketed the first household-laundry detergent in miscible polyvinyl alcohol film,[6] a move that promises to open major portions of the billion-dollar soap and detergent business to this new form of convenience packaging.

4. In *polyethylene bags for frozen foods* (hold-

[1]See "Bread Wrapper: New Polyethylene Triumph," MODERN PACKAGING, May, 1958, p. 148.
[2]See "First Aluminum-Canned Beer," MODERN PACKAGING, Sept., 1958, p. 106.
[3]See "New Advances in Aluminum-Canned Beer," MODERN PACKAGING, Feb., 1959, p. 90.
[4]See "Aluminum Cans Extruded at 120 Per Minute," MODERN PACKAGING, Feb., 1960, p. 50.
[5]See "Packaging Pageant," MODERN PACKAGING, Dec., 1959, p. 118.
[6]See "Now, Detergent in PVA," MODERN PACKAGING, June, 1959, p. 98.

ing 1 or 2 lbs. of free-flowing vegetables), it was a pair of West Coast packers, taking their cue from fellow packers in Western Canada, that introduced to Americans another form of convenience packaging that is spreading rapidly across the country.[7]

5. In pioneering *new cartons for frozen foods*, Chet's Famous Foods, Eugene, Ore. turned to a cold-glued wrapperless carton,[8] while Shasta Packers, Watsonville, Calif., came up with the convenience of a polyethylene pouch-type package enclosed in a standard lock-tab folding carton with overwrap for its frozen fruits in syrup.[9] Moreover, West Coast plants were selected by the Birds Eye Div. of General Foods for the initial run of a polyethylene-and-paper-lined folding box using heat and hot-melt sealing for frozen strawberries.[10]

6. And, finally, in *tetrahedrons*, Real-Fresh, Inc., Visalia, Calif., first used this four-sided pyramidal packaging form to hold sterile milk in a paper-foil-polyethylene material[11] and Reese Finer Foods, Los Angeles, is employing a similar foil-paper construction for flavored pancake syrups.

It is such packaging innovations as these that have led San Francisco designer, Walter Landor, to claim that "the West is the natural home of consumer-oriented packaging."

"Western living," he believes, "begins with the consumer, not with tradition or with the manufacturer's requirements. The free-wheeling Westerner is more open to new products and new ways to use old products than his Eastern counterpart. And he is apt to be much more articulate about his needs, even to the point of telephoning the manufacturer about products or packages he does not like."

To offset competition

The Western packager is decidedly aware that more and more Eastern companies are building plants in the West to which they can bulk ship ingredients for final packaging. This merely serves to emphasize the fact that in any regional situation where hundreds of smaller packagers and packaging suppliers must compete with the mass influence of greater out-of-state companies, invention and innovation are essential requirements.

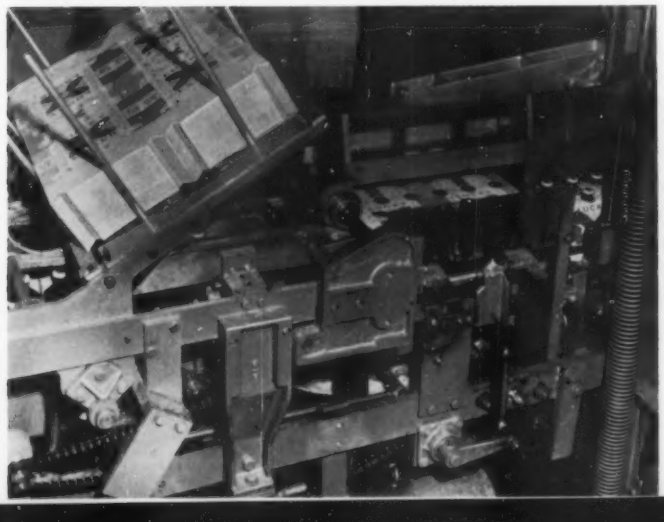
A case in point is the Leslie Salt Co., San Francisco. Based on experience gained in its recent introduction of a colorful 12-oz. package for salt—looking more like a glamorous container for talcum powder or bath salts—the company is now promoting a new line of four exotic, fashion-colored salt containers selling singly or in four-packs. With an aluminum foil wrapper and a three-way dispensing device on top, these "Tiffany Tints" have boomed sales up to 50% in test areas.

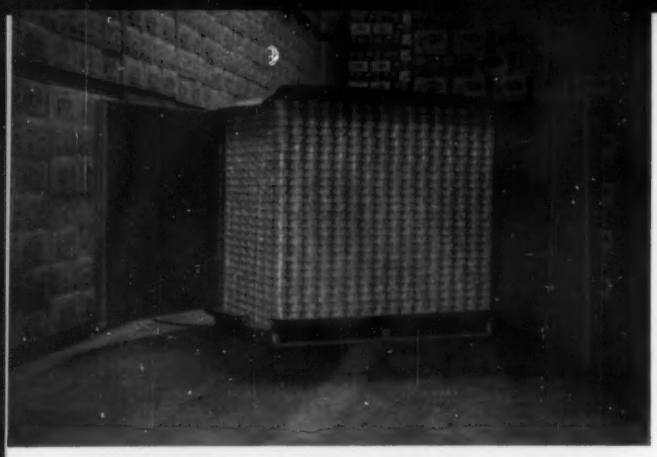
Also in the design area, a series of packages for the Paul Masson Vineyards, Saratoga, Calif., attracts repeated attention. Following up its success with a champagne "Chill Pack" incorporating a bulging film-lined carton for inserting ice,[12] a "Dial Your Drink" brandy package with a revolving top that provides mixing instructions[13] and champagne packages complete with candle and brass candlestick or champagne glasses, Masson has now introduced a "Barbecue Set" that combines a bottle of burgundy with a pair of high-quality steak knives.

Among liqueurs, another outstanding package

[7] See "Frozen Foods in Bags," Modern Packaging, Feb., 1959, p. 104.
[8] See "New Cold-Glued Wrapperless Carton," Modern Packaging, Oct., 1959, p. 124.
[9] See "Pouch-in-Carton for Frozen Foods," Modern Packaging, Oct., 1959, p. 144.
[10] See "A New Liquid-Tight Carton," Modern Packaging, Aug., 1959, p. 90.
[11] See "Sterile Milk in Paper," Modern Packaging, Jan., 1960, p. 82.
[12] See "Gift Packaging: A Critique," Modern Packaging, Feb., 1960, p. 77.
[13] See "Packaging Pageant," Modern Packaging, Dec., 1959, p. 118.

Machine-formed multipacks *for one-way beer bottles can be run at 60 per minute. Lucky Lager Brewing Co., San Francisco, is combining this package with a new, short, non-returnable bottle. The new six-pack is set up and loaded at the brewery in contrast to other methods that require unloading six-packs containing bottles, filling the bottles and reloading the cartons. Multipack machine and "Glass Band" carton by Container Corp. of America.*





Bulk shipping *of 6,000 cans of tuna fish by Van Camp Sea Food Co., Long Beach, Calif., increases space 12% over former 48-pack cartons, reduces shipping damage and improves in-plant handling, the packager reports. Layers are separated by chipboard. Corrugated shipper by Continental Can's Fibre Drum & Corrugated Box Div.*

sets the Kahlua brand apart. A bone-china bottle shaped like a primitive carved-stone figure is packaged in a mosaic-tile-patterned, hexagonally shaped sleeve carton that both protects and displays the strikingly designed container within.

The design efforts of these two brands point to a growing trend toward a strong Western influence in the packaging of beverages generally. Not only are liquors and liqueurs appearing in strikingly different bottles, labels, wraps and cartons, but more and more soft drinks are reportedly being marketed in cans west of the Rockies, and single and multipack beer containers are sporting new and distinctive shapes and constructions which are not widely seen elsewhere.

Lucky Lager Brewing Co., San Francisco, for instance, is packing a new one-way beer bottle in a newly designed six-pack carton said to be the first machine-formed package designed for this type of container. Principal advantage is that the six-pack is set up and loaded at the brewery, rather than arriving already loaded with empty bottles that require unloading, filling and reloading.

In other interesting Western packaging departures, *Sunset* Magazine, Menlo Park, Calif., is believed to be the first major periodical to bag its mail copies in polyethylene film and Milani's low-calorie dressing (Louis Milani Foods, Inc., Los Angeles) appears in a slim, svelte bottle suggesting the aid-to-the-diet nature of the product.

Bulk packaging

Western influences are evident in bulk packaging, too, induced by the great distances that must be covered to reach other American markets and by the region's long shore line and great seaports.

Planted a thousand miles along the rim of one of the world's greatest marketing areas—the Pacific Ocean basin—with easy access to world as well as national markets, the Western packager casts eager eyes at the possibilities in coordinated containerization.[14] Such prime movers as Matson Steamship, American President Lines, the Southern Pacific Railroad and Western Airlines are actively studying how cases and pallet multiples can be standardized into "boxcar-sized" containers to be handled by huge rigs and lifts, and shifted uniformly from or to ship, railcar, truck and airplane. Matson has already effected impressive installations for bulk handling of the Hawaiian pineapple crop, while the American President Lines promotes its "Cargo Guard" boxes to package shippers. And a typical packager, Van Camp Sea Food Co., Long Beach, Calif., to eliminate costly longshore handling, is now bulk shipping its Chicken of the Sea tuna in huge pallet-sized corrugated containers, holding almost 6,000 packed cans. Advantages of these containers over the previous 48-pack cartons include 12% more cans in the same space, reduced shipping damage and improved in-plant handling.

In still another advance in modern food packaging and shipping, the Liquefreeze Co. has demonstrated 5-min. freezing of packaged foods at a Glendale, Calif., plant, using liquid nitrogen at minus 320 deg. F. and Libby, McNeill & Libby reports shipping packaged fruits and vegetables from California to New York in an insulated railcar load frozen by the "Liquefreeze" method. Arrival temperature was said to be minus 124 deg. F.

Automated retailing

Even in retailing, the West, which introduced the present-day concept of shopping centers, is ready to take a leading role in the automation of mass food and drug outlets.[15] In this instance, according to R. Leon Edgar, Los Angeles architect whose firm has designed several supermarkets, the system will probably combine the charge-plate principle with some form of memory computer.

A shopper will locate a display sample of merchandise she wants, insert her charge-plate in a slot, push a button and so record her order in the computer "brain." After her final purchase, she will signal "end of purchase" in a special slot, thus activating circuits to tally her purchases, release her merchandise onto conveyors, and package and deliver it to a pick-up point near her car.

"It's bound to alter packaging considerably," in the opinion of another Los Angeles architectural firm, Stiles & Robert Clements & Associates. "Only one of two samples would have to be displayed. Stacks, racks and reach-ins would give way to

[14]See "Containerization," MODERN PACKAGING, April, 1960, p. 121.
[15]See "The Supermarket: What's Happening?" MODERN PACKAGING, May, 1960, p. 83.

selector-viewers. Packaging emphasis could then very well be expected to shift to standard container sizes for easy electronic handling."

Expansion

But even before such modernization hits Western retailing, new construction and new capacity in Western packaging continues. Continental Can's new Pacific Metal Div. in Merced, Calif., with a 100-million-can annual capacity, is this company's third major installation in the state's central valley. And capacity at its Fibre Drum & Corrugated Box Div. plant in Los Angeles has been doubled. Last month, its new Plastic Bottle & Tube Div. facility in Los Angeles began operations, particularly for producing polyethylene detergent containers.

Container Corp. is augmenting its capacity with a new plant in Fresno and Olympic Plastics of Los Angeles is adding 40,000 sq. ft., also to satisfy demand for plastic bottles and other blow-molded items. Dow Chemical is expanding its production facilities with a new polyethylene-film plant, also located in Fresno, plus the addition of polypropylene production facilities at Torrance, Calif.

Fibreboard Paper Products Corp., San Francisco, has been making a series of expansion moves. In addition to a new manufacturing and merchandising unit—the Tube & Can Div.—the company also has created a Hawaii Packaging Div. and a new shipping-container plant at Phoenix.

Meanwhile, The Borden Chemical Co., New York, has initiated a $1,000,000 expansion program at its Springfield, Ore., plant, including a new product-development laboratory and a dry-adhesives plant, as well as expansion of the company's existing synthetic resin and formaldehyde production.

Other signs of Western packaging growth include a new chemical division for the Rexall Drug & Chemical Co., Los Angeles, (now involved in injection molding); concentration by Milprint, Inc., of all its West Coast manufacturing activities in an expanded plant at South San Francisco; establishment by Vulcan Containers, Inc., of Vulcan Containers Pacific, Inc., with manufacturing facilities at San Leandro to serve the steel-shipping-pail and tinplate-can needs of the West; a new bag plant for St. Regis Paper at Los Angeles to double its former capacity, and construction of a corrugated board and container plant by Southwest Forest Industries, Inc., Phoenix, plus plans to build a new pulp and paper mill in northern Arizona.

Similar Western expansion announcements by Celanese Corp., National Can, Bemis Bros. Bag and the Western Waxide Div. of Crown Zellerbach create a promising picture of a bigger potential for the Western packaging industry in the '60s.

Stanford Research Institute cuts shipper damage

Western research into packaging problems is typified by two projects at the Stanford Research Institute, Menlo Park, Calif., a division of Stanford University.

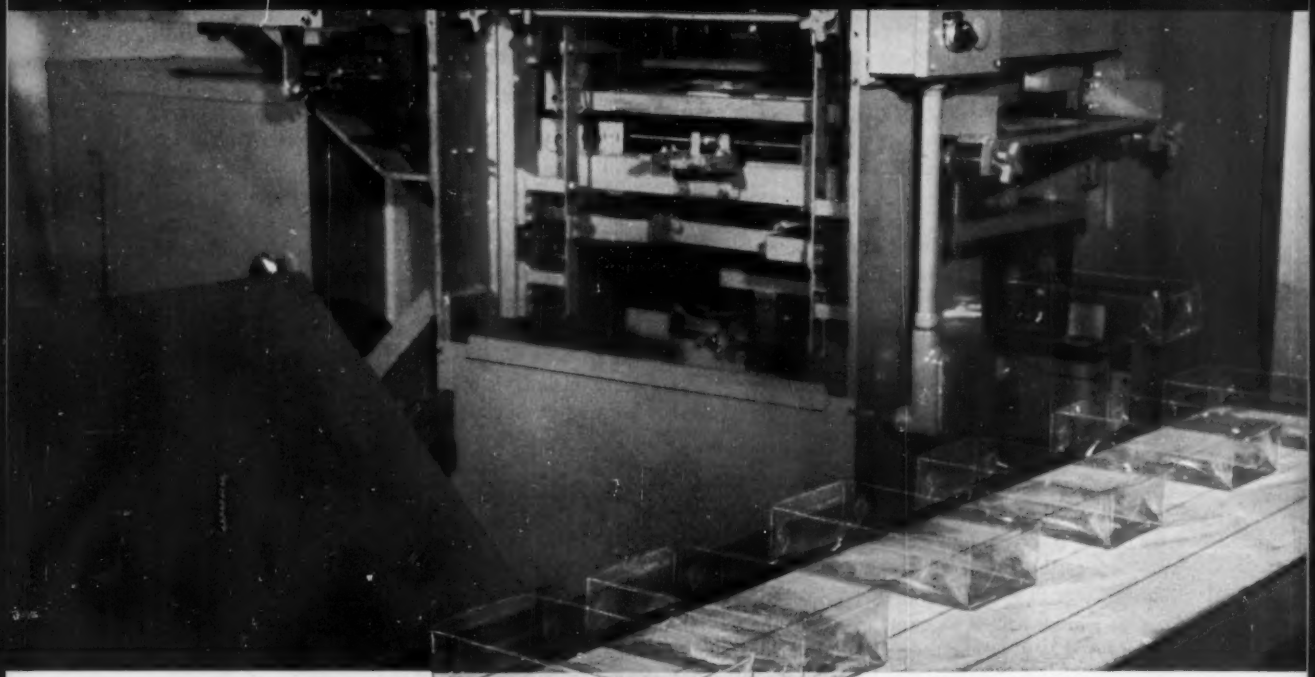
One undertaking is an effort to reduce the million-dollar annual loss caused by "sweat damage" to large shipments of cold canned goods transported by sea through warm and humid areas. Three solutions to this rust problem are suggested: (1) unitized-load handling techniques to permit complete enclosure of 50 to 60 cartons in such vapor-barrier materials as polyethylene (shown here being loaded in a ship hold next to unprotected cases in a test), (2) a protective spray on cans prior to labeling and (3) improved control of dew-point conditions in cargo holds.

A second project involved methods to increase the strength of fibreboard cartons, increasingly used in the West, particularly to ship fresh fruits and vegetables. Faced with the problem of loss of strength when fibreboard shippers are subjected to high humidity or direct contact with moisture, a Stanford research team developed a technique for treating the corrugated inner core with Vapon, a liquid, high-polymer plastic. Experimentally used by the Glidden Co., San Francisco, the treated-core containers are said to resist vertical load pressures up to 205 lbs. per lineal cross-sectional foot compared with only 134 lbs. for untreated shippers, with a comparative weight increase from water absorption of only 31% for treated types and 159% for untreated.

Polyethylene 'envelope' *protects tinplate cans (above) from "sweat damage." Treated fibreboard carton (below) resists pressure that collapses an untreated shipping container.*

Plasti-Lok

rigid, transparent plastic packaging



new transparent package fabricated without heat or adhesive on

NEW JONES PLASTI-LOK MACHINES

Oriented styrene sheeting, cold folded on the new Jones Plasti-Lok machines, introduces the first high speed production method for forming a rigid, transparent tray.

The Jones Plasti-Lok machines are made in two models with overlapping size ranges comparable to those normally covered by conventional paper board tray forming machines. Trays are set up at the rate of 40 to 100 per minute depending on tray size and dimensional relationships. Size changeover made in 20 minutes or less (depending on ability of mechanical personnel) by easy replacement of pre-set folding parts.

Producers of meats, fresh vegetables, baked goods, candies, textiles, drugs and hard goods can put their products into the new, low cost transparent package now . . . by purchasing* the new Jones Plasti-Lok machines. The application of Jones rugged design and construction standards, plus the predictable uniformity of the plastic material, bring a new concept of dependability and trouble-free operation to tray type machines. R. A. Jones & Company, Inc., P.O. Box 485, Cincinnati 1, Ohio.

Blank Handling • *Positive, superior method of blank feeding.* • *Accurate positioning and registration of blank.* • *Positive closing of locks forces male portion into position.* • *Vacuum stripping of completed tray from forming head.* • *Side and end folds made in two stations for shorter machine strokes and higher speeds.*

*Leasing and other financial arrangements available directly from R. A. Jones & Co.

Patent Application *Information gladly furnished on the development of and patent applications for Plasti-Lok and the plastic cold folding principle.*

See YOUR Product **in Plasti-Lok FREE.** Send us (carefully packed) a sample of your product and carton. We'll package it in Plasti-Lok and return it to you promptly, without cost or obligation.

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Cartoning Machines - Case Packers

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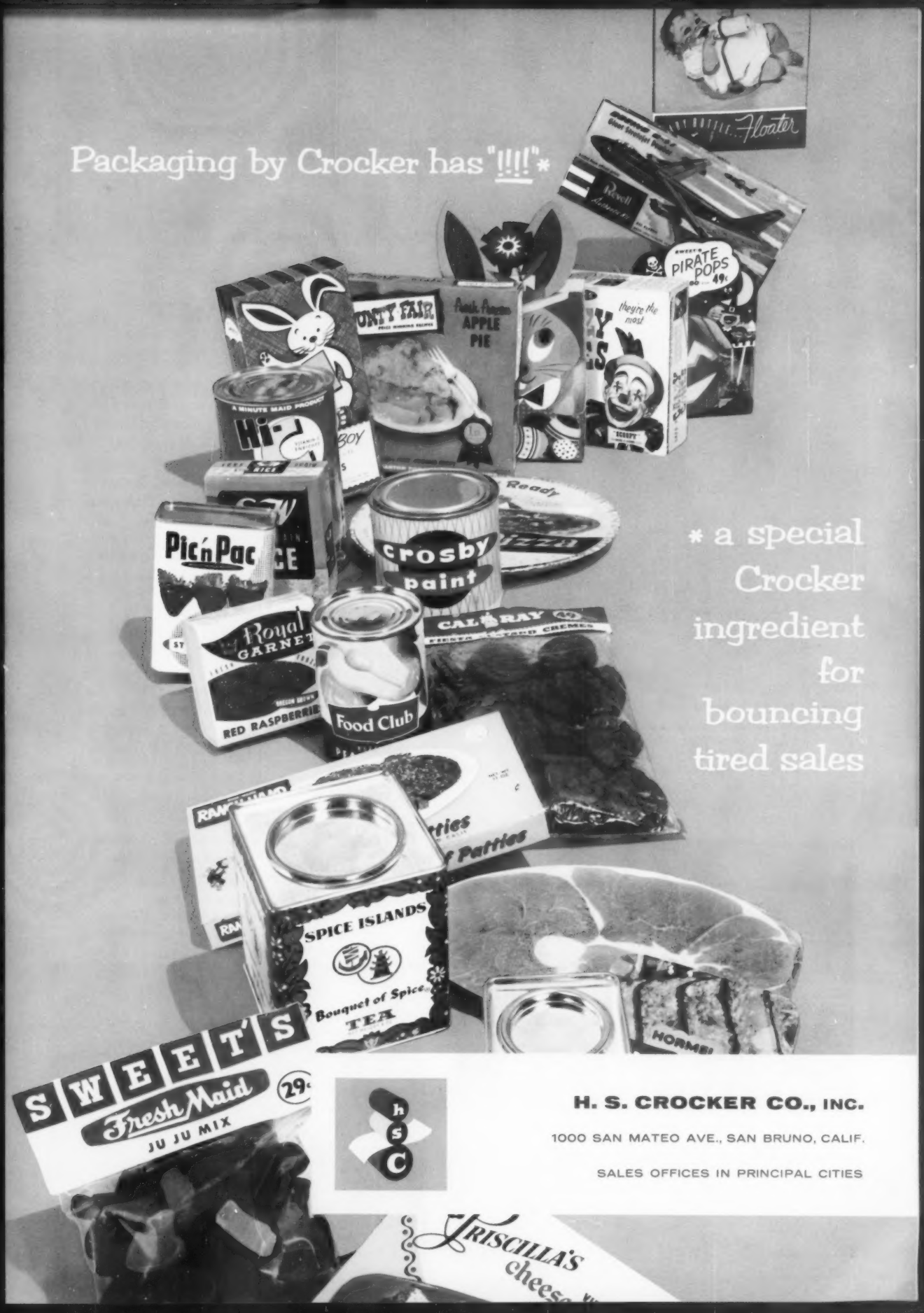
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Shrink-film tray pack

Skin-tight sleeves of tough, sparkling-clear irradiated polyethylene with excellent high-temperature sealability help Washington produce packagers build new sales for apples in pulp trays

Immobilized *by tight-fitting sleeve of shrinkable polyethylene, Washington apples cannot bump together in this six-pack tray, minimizing chances of bruise damage. Open ends of the high-clarity film band permit free circulation of air to prevent fogging.*

From the world-famed apple country of the Pacific Northwest comes news of a successful pre-packaging application for irradiated, biaxially oriented polyethylene film—a material whose properties include a noteworthy combination of inherent strength and remarkable shrinkability.* These characteristics, coupled with sparkling clarity and high gloss, suggest applicability of the heat-sealable, rapid-shrink film to a broad range of wrapping and overwrapping applications. It can be used wherever a skin-tight-fit package is desired for improved product visibility and protection.

At present, three packers in Yakima, Wash., are using the low-cost new film, in 1-mil thickness, in combination with inexpensive molded-pulp trays to produce tight shrink-sleeve consumer pre-packs of six or eight apples each. They are: the Washington Fruit & Produce Co., Highland Fruit, Inc., and the Gleed Cold Storage & Packing Co. Other packers in the state reportedly plan to adopt the package.

*See "Irradiated Polyethylene Film," Modern Packaging, May, 1960, p. 121.

Bottom seal, *made at high speed at temperature of more than 300 deg. F., is said to have tensile strength nearly equal to that of the film. Three West Coast apple packers using the material find that it does not melt, flow or burn at high sealing temperatures.*

Trip through shrink tunnel, *heated to 210-225 deg. F., reduces film sleeve to half its original size (foreground), clamping the fruit in place under a skin-tight sheath of film. Operation takes only a few seconds, so apples remain cool to the touch when the package emerges from the tunnel.*

First steps *in shrink-sleeve tray-packaging operation are manual. Operator at left places apples in molded-pulp trays, which then are loosely overwrapped by operator in foreground. Trays travel by feeder belt for automatic heat sealing and seal cooling. Development of mechanical filling and wrapping equipment is expected to lower costs and increase packaging speeds.*

These companies have proved out the merchandising appeal and superior protection of the shrink-sleeve tray pack in nationwide outlets. In one recent market test, conducted in 41 self-selection stores in the New York metropolitan area, the new package reportedly outsold two other styles of apple pre-pack. Equally important, it won re-order approval from hard-headed produce managers—the men whose business it is to know what shoppers will or will not buy. Significantly, these results were achieved despite a slightly higher price for apples in irradiated polyethylene, necessitated largely by hand-labor costs in the packaging operation.

User companies report, however, that packaging-line cost (which reportedly will be trimmed via the development of specialized automatic machinery in the near future) is more than offset by increased sales volume and better product protection attributable to the performance of shrinkable polyethylene film. The tight shrink fit of the material holds each apple separately and securely in place in the tray to prevent bruise damage that can occur when bulk or loosely packed apples are bumped together during shipment and other handling.

The film's toughness also minimizes the number of damaged and returned packages, according to the West Coast shippers who have adopted the package. It is reported to have exceptionally high resistance to fracture as well as four to six times the tensile strength of conventional low-density polyethylene.

From the merchandising point of view, the shrinkable thermoplastic film's clarity and high gloss enhance the rosy sheen of Washington apples, inviting pick-up by consumers. In addition, the tight film sleeve shows whether the fruit has been roughly handled, pinched or otherwise mauled by finicky shoppers. And, of course, the six- or eight-unit tray pack, labeled and pre-priced, makes a convenient-to-buy multiple-unit impulse item.

The apple pre-packaging operation is basically the same at all three West Coast plants. Typical is the technique employed by Washington Fruit & Produce. Apples are placed by hand in a molded-pulp tray, which is then conveyed by feeder belt to a revolving storage table. Here, an operator cuts a length of shrinkable polyethylene from a roll and drapes it around the filled tray, with film ends overlapping underneath. Static electricity holds the film in place as the tray is fed by conveyor to the heat-sealing station, where hotplate temperature of 300-325 deg. F. effects a rapid seal which is said to possess tensile strength almost equivalent to that of the polyethylene film material itself.

Effective sealability of the film at this temperature suggests its use in many [*Continued on page 150*]

SUPPLIES AND SERVICES: "Cryovac L" shrinkable polyethylene film by Cryovac Co., Div. W. R. Grace, Cambridge 40, Mass.

Cellophane overwrap *on the Ruth Ashbrook Bakeries' new foil-laminated tray package is sealed to the sides of the exteriorly vinyl-coated container rather than overlapping at the bottom, for savings in film. Consumer can re-heat baked goods in the tray after removing the overwrap.*

LINERLESS

Significant on several packaging counts is a new linerless, siftproof and leakproof "bake-in" tray container adopted by Ruth Ashbrook Bakeries, Seattle. The vinyl-coated and foil-laminated paperboard tray, whose corners are tightly sealed without glue, can be applied for a wide variety of frozen, powdered or solid products. It also marks another step toward the cost-cutting goal of incorporating all the protection needed for most carton-packaged products in a single-wall container.*

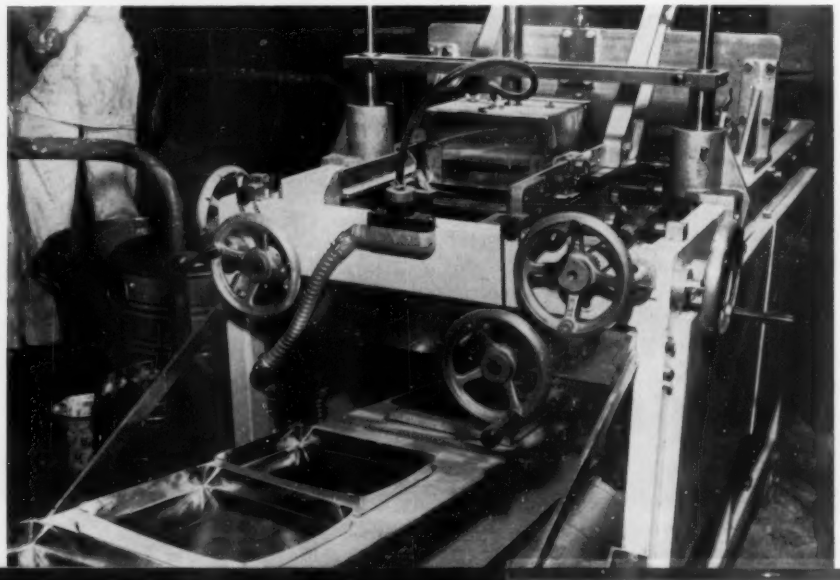
The new, greaseproof, baked-goods package serves both as an in-plant product-baking tray and as an in-home re-heating container. It is formed from a patented pre-cut and scored blank by a machine specially designed for the purpose. The combination is helping this West Coast marketer achieve important savings in packaging-line costs and in container-storage space. Labor costs alone have been reduced by 33⅓%. Because products are baked in the tray, production can be shifted to various tray sizes without investing in special baking pans.

Secret of the tray package's secure liquid-tight corner seals lies in the details of its construction. Blanks are made from 16-point bleached-sulphate board, foil laminated on both sides. In addition, the surface which becomes the tray's exterior is given a coating of heat-sealable vinyl.

As each blank is fed into the automatic tray-form-

* See "Approaching the Single Wall," MODERN PACKAGING, March, 1960, p. 143.

Tray former *utilizes a heated die (upper center in photo) for rapid, single-stroke set-up of containers. Liquid-tight and siftproof corner sealing is achieved by vinyl-to-vinyl surface contact under heat and pressure as the forming die of the machine folds tray corners inward in a V shape along pre-scored lines of blank.*



Formed and sealed without glue on an automatic machine,
new siftproof, coated and foil-laminated board tray
enables a Seattle baker to achieve greater packaging efficiency at lower cost

BAKE-IN PAN

ing machine, a male die carrying an electric heating element sets up the tray and seals its corners in a single, rapid stroke. Sealing is achieved via vinyl-to-vinyl surface contact under heat and pressure as the forming die folds each of the four tray corners inward in a V shape along pre-scored lines.

As formed and sealed trays come off the machine, they are deposited automatically on a conveyor belt for manual filling with oven-ready bakery products. Tray-forming speed of the machine, naturally, is geared to manual tray-filling speeds. However, it is reported to range between 18 and 42 per minute, depending on the size of tray required (4 by 4 by ¾ in. to 12 by 12 by 4 in.). Simple hand-wheel adjustment, says the packager, enables the machine to be changed over in 4 min. to accommodate any tray size used by Ruth Ashbrook Bakeries.

After filling, the uncovered trays are placed on large, flat pans which, in turn, are inserted into ovens for baking of the products. According to the packager, the rugged foil- [*Continued on page 152*]

SUPPLIES AND SERVICES: "Pantray" vinyl-coated and foil-laminated tray blanks and automatic tray-forming machine by John T. Raisin Corp., 1575 Bayshore Blvd., San Francisco 24; tray blanks distributed by Zellerbach Paper, 343 Sansome St., San Francisco 19. Overwrapper by Oliver Machinery, Grand Rapids 4. Cellophane by Olin Mathieson, 655 Madison Ave., New York 21, and Du Pont, Wilmington 98, Del. Labels by Fairbairn Co., 1900 Carroll Ave., San Francisco 24.

Oven-ready *baked goods are placed by hand into trays as they come off forming machine. Filled trays then go into large pans for baking. The rugged, new container reportedly can take oven heat of more than 350 deg. F. for as long as an hour without damage.*

Pre-scored blanks *show construction details that permit fast tray set-up and secure corner sealing. Corners of blank at left, partially folded in, indicate action of forming die that brings spots of outer vinyl coating together for sealing. At top, two of many tray styles used.*

Boasting an unusually effective surface area, even for a specialty loaf, unique waxed-paperboard package for premium Western product is loaded on a new vertical cartoner that cuts assembly cost 60%

Frozen bread

From Nevada comes a new packaging bet for specialty breads as bold as any wager at that state's dice tables—but which, if successful, could open up a fresh marketing approach for the baking industry that could upgrade both products and profits in this highly competitive food field.

First, there is a new package—a waxed locking carton, enclosing waxed-paper-wrapped loaves of sliced, ultra-premium crushed-wheat and white bread, believed to be the first time a carton has been used for the packaging of such products.

Second, and of equal significance, is the fact that these loaves are frozen and sold in retailers' regular low-temperature cabinets. Though bread has been frozen by many bakeries for storage purposes, it has rarely been frozen for retail sale.

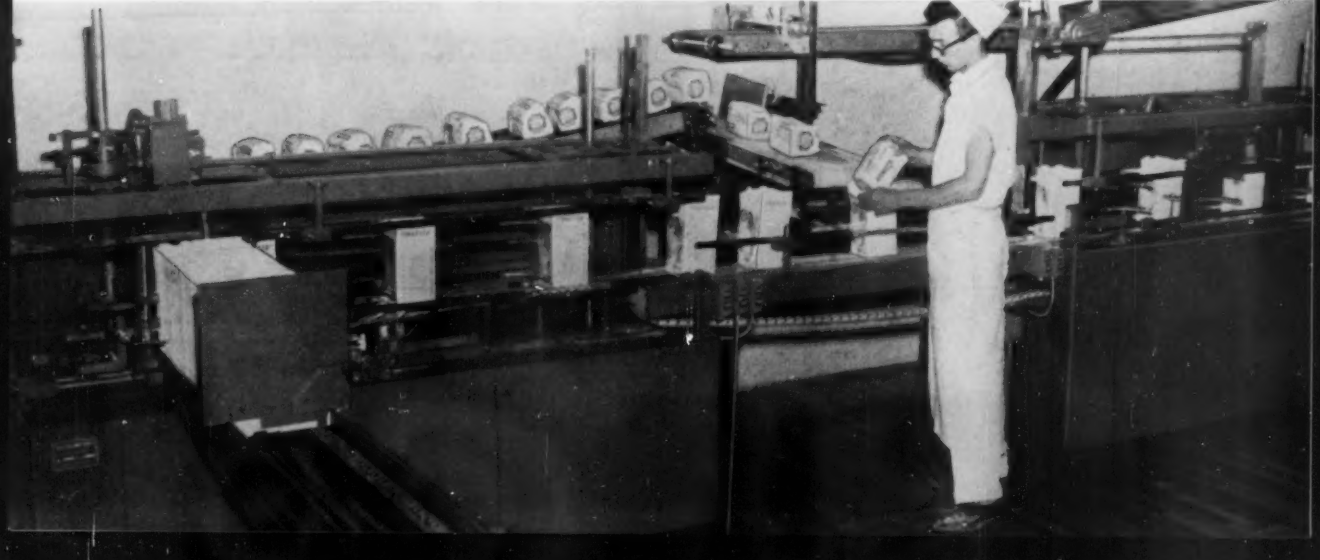
Launched last year under the Sheepherder brand by Welsh Bakery, Inc., Reno, these high-priced products—which are sold at a price 30% greater than that of their nearest premium non-frozen competitor—have already spread rapidly from local areas to national distribution. Without any advertising support, the new baked products have sold, apparently, because of (1) the striking package design that tells a quality story in bright, multicolor printing and (2) the stackability and impact of the novel package in the freezer cabinet.

To facilitate the cartoning innovation, a new vertical machine was devised for Welsh that trims labor costs 60% over former hand-packaging methods.

The bread was first marketed in a waxed paper wrap only, but problems of embrittlement at low freezing temperatures, of unacceptable water-vapor transmission and of difficulty in stacking the rounded packages attractively in frozen-food cabinets forced Welsh to seek another container. Use of the special new carton has turned the trick in both product protection and packaging economy.

Waxed inside and out, this carton, when added to the waxed wrap, reportedly provides all the barrier necessary for a six-month shelf life. The smooth, clay-coated virgin-kraft surface facilitates litho-

Vertical cartoner *holds up to 1,400 folding cartons in large magazine (left), sets them up and closes bottom flaps by means of a vacuum device and fixed plows. Slower-moving center section of the unit facilitates hand loading and the top flaps are closed by plows on speeded-up conveyor (right). Wrapped bread comes to packager on one of two elevated conveyors (background).*



in a carton

Double package *for specialty whole-wheat and white breads that are sold from frozen-food cabinets consists of conventional waxed-paper wrap and new waxed carton. Outer paperboard container has a high-gloss surface to enhance the multicolor design and dual locking tabs on each of the end flaps to increase structural strength.*

graphic printing in three and four colors, and the high gloss increases the design impact. The white-bread carton is printed in red and two shades of blue; the wheat-bread container is designed in yellow, red and two shades of blue.

Structural features, too, increase the desirability of this container. Double-locking tabs on the end flaps insure rigidity. And the arc shape of these tabs and slits resists pilferage. Best of all, the rectangular cartons promote easy stacking and fast product identification in retail freezer chests.

The unusual brand name is sharpened in the package design by a symbol of a rustic Western frontier character. Moreover, the origin of the name and formula for the "hand-shaped" product is detailed in a story printed on the carton's side panel.

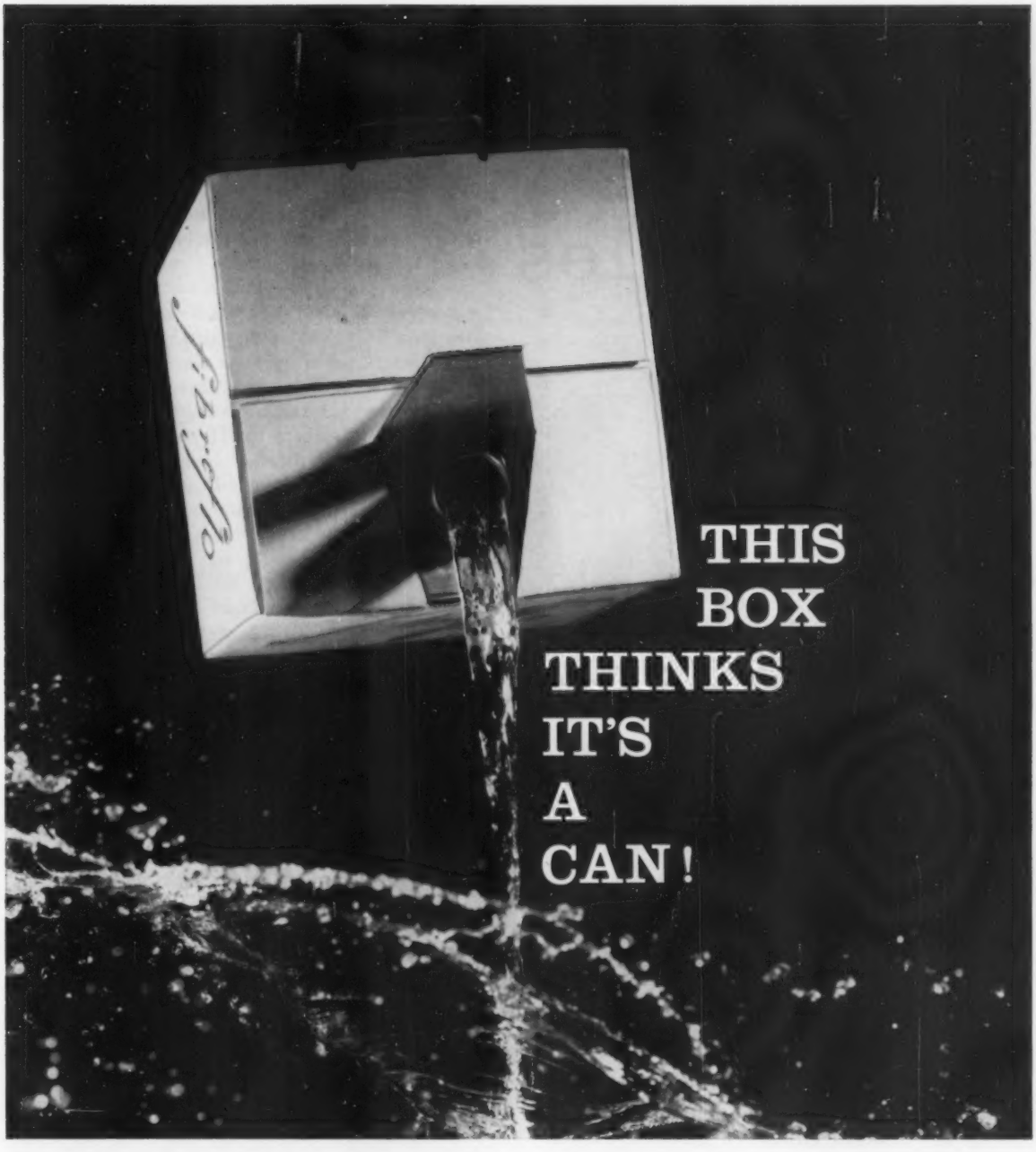
Packaging operations

The new cartoning machine handles the containers in a vertical position at a speed of 40 units per minute. Blanks are held upright in a massive horizontal, spring-loaded magazine with a capacity of 1,400 cartons. Pulled by vacuum cups into the straight-line unit and opened, the carton bottoms are then closed by stationary plows. Lugs mounted on side chains pull the cartons to an open conveyor in the center section of the machine. For loading, the cartons slow down to only half the linear speed of the machine's forming section.

The bread, which has been wrapped in waxed paper on separate standard equipment, travels by conveyor to the cartoner. A single operator assists loading by guiding a loaf into each carton. More chain-mounted lugs immediately pull the carton into the final closing section where additional plows lock the top of the carton at the initial rate of travel. The packaged product is immediately flash frozen at a temperature of minus 30 deg. F.

While not necessary for the Welsh operation, the machine is quickly adjustable by hand wheels for cartons of different size. And while the speed at Welsh is governed by the wrapper, the cartoner is rated at 60 units per minute, though the supplier reports test runs of 100 cartons per minute. Higher speeds are said to make this unit adequate for virtually any specialty-food cartoning operation.

SUPPLIES AND SERVICES: "Par-a-Glaze" cartons and vertical cartoning machine by Lord Baltimore Press of California, sub. of International Paper's Lord Baltimore Press, 2701 Merced St., San Leandro, Calif.



And sometimes it even believes it's a glass jug. Its name: *Fibreflo*. And it holds oils, syrups, chemicals... any kind of liquid. Just like glass or metal. Except that it's much lighter; doesn't break or shatter. The inner secret of its unique personality? A sturdy plastic bag lining with a telescoping spout.

This exciting new development can help you pour higher profits into your liquid packaging operations. You'll cut freight costs with Fibreflo's lighter weight. You'll save on storage space because Fibreflo folds completely flat when empty. And with Fibreflo's rugged construction, you can forget glass breakage problems, dented-can worries.

Fibreflo also offers a greatly increased area for product promotion, with custom printing available at a very low cost. And it's easy to fill – utilizes the same equipment as present conventional containers.

Fibreflo is another example of Fibreboard imagination and research – directed toward solving today's marketing problems through creative packaging.

475 Brannan Street, San Francisco, California

FIBREBOARD
PAPER PRODUCTS CORPORATION

Los Angeles hosts WESTERN SHOW

Record number of national and regional supplier companies take exhibit space for three-day run (July 19-21) of eighth biennial Western Packaging & Materials Handling Exposition

With 167 exhibitors signed up as this issue went to press, the eighth Western Packaging & Materials Handling Exposition already ranks as the largest in the show's history. The biennial exposition opens a three-day run July 19 at Los Angeles' refurbished and expanded Pan Pacific Auditorium, where the former record high of 148 exhibitors was established four years ago, in 1956.

According to Clapp & Poliak, Inc., sponsor and manager of the show, the 1960 Western exposition also promises to shatter the attendance record of 8,600 visitors, set in 1956. As reasons for the anticipated new high in attendance, the company points to two factors: the concurrent population and industrial booms in the 11 states west of the Rockies from which the show draws its main interest and the advent of regularly scheduled jet-airliner service linking the nation's East and West Coasts more closely than ever before.

The widening interest in and influence of this show also is evidenced in the list of exhibitors. Many of the packaging-supply and service companies which have taken booth space in Los Angeles are national in their operations.

Preliminary reports from exhibitors indicate that the 1960 Western exposition will be a marketplace for ideas and equipment geared to provide faster packaging speeds, lower production costs, and more efficient and economical use of plant space. Much of the equipment and materials to be seen reportedly will be on display for the first time. And, says the show's sponsor, the flourishing trend toward prepackaged produce will be reflected in exhibitor demonstrations of improved pre-packaging techniques, materials and machinery.

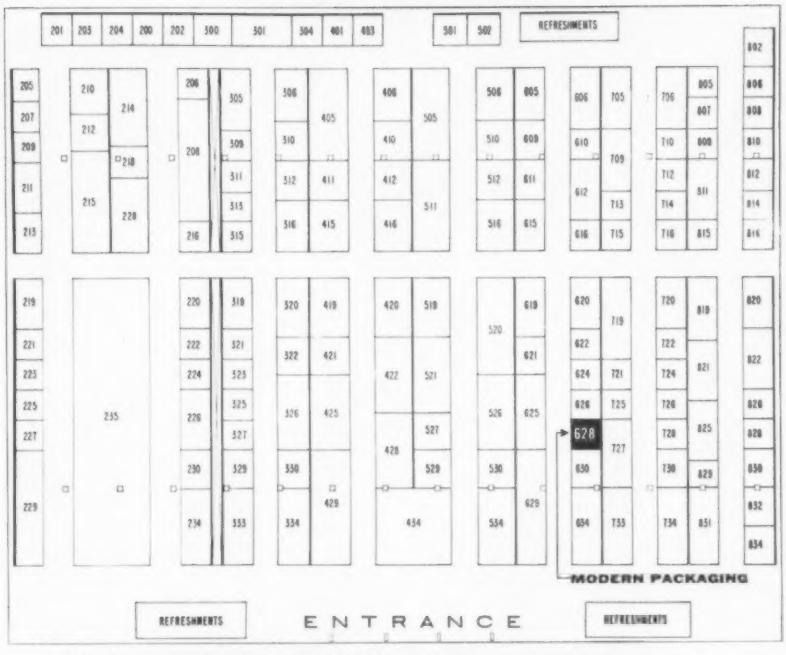
At a Western Packaging Assn. breakfast Thursday, July 21, at the Sheraton-West Hotel, Los Angeles, Roy King, editor of *Food Field Reporter*, will discuss "The Supermarket Speaks—Why Do You Make It So Tough for Us to Sell Your Products?" This breakfast session replaces a one-day educational packaging clinic originally scheduled.

The Western exposition this year will run for a total of 19 hours, spread over three days. The day-by-day schedule: Tuesday, July 19, 1 to 6 p.m.; Wednesday, July 20, 1 to 10 p.m., and Thursday, July 21, 1 to 6 p.m.

As in previous years, the 1960 Western Show is under the direction of a board of sponsors made up of 30 industry executives. Chairman of the board of sponsors is William H. Jaenicke, independent packaging consultant of San Francisco. Serving with him as co-chairman is Kenneth O. Dean, advertising and editorial director of *Good Packaging*.

The next Western Packaging & Materials Handling Exposition, in 1962, will be in San Francisco.

Guide to booth locations



Western Packaging & Materials Handling Exposition
Pan Pacific Auditorium, Los Angeles, July 19-21

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Spiral race track *for gravity-fed paperboard milk cartons smooths in-feed at high speeds. Cam arms on turret (left) push containers from horizontal to vertical position. Latch for opening plug caps is concealed behind turret. Turret in center holds conventional plug-closing mandrels. Large rotary filler with 38 quick-adjusting valves can be seen at the right.*

Milk cartoning at 240 per minute

100% jump in output of flat-top quarts is accomplished at Los Angeles dairy with a new 38-valve liquid filler that utilizes new carton-feed and plug-opening devices for high-speed operation

Los Angeles, long known as the "city of superlatives," is living up to its reputation, at least in dairy packaging, with the installation of a single milk-cartoning line that achieves a new high in filling speed—240 per minute. Consisting of a rotary filler and automatic case packer, this facility doubles the output of previous equipment and streamlines packing operations for volume quantities of waxed containers in half-pint to quart sizes.

Installed exclusively for flat-top quarts at Jerseymaid Milk Products Co. in Los Angeles, this speedy unit has reduced packaging time from a 15-hr. day (with costly overtime) to an economical 8-hr. schedule. In replacing two slower units, the new equipment saves floor space, capital investment and at least one operator on the container feed.

Key mechanical elements contributing to the increased speed are 39 filling valves of an increasingly popular design (compared with 18 on older machines) and redesigned in-feed and plug-cap-opening devices. The greater number of valves, a relatively new quick-adjusting type* made with many nylon parts, boosts production output.

*See "Quick-Change Liquid Filler," MODERN PACKAGING, March, 1959, p. 102.

The in-feed device, formerly another turret, has been modified with the addition of a bar-type cut-off that sweeps the horizontal paperboard containers from a V-block into a spiral turret that revolves them in both horizontal and vertical planes—raising the cartons to a vertical position and turning them into the filling turret.

The standard vacuum-type opener for the captive plug caps has been discarded in favor of a positive-acting latch arrangement on the in-feed device. This simple, single mechanism replaces a complex vacuum pump and air strainer, and works in this manner: When the horizontal containers, angled on one edge with the corner plugs uppermost, are pushed bottom first into the helical turret, the latch drops below the plug lip—pulling it open as each container is turned to the vertical position.

At the exit of the filling turret, containers are transferred to the closing station, where plugs and plug lips are closed and crimped by conventional expanding jaws and a lip-crimping device.

SUPPLIES AND SERVICES: Model 300-38 filler and flat top cartons by American Can Co., 100 Park Ave., New York 17. Case packer by Emhart Mfg. Co., Portland Div., Portland, Conn.

Sure-Fire Packaging That Keeps Your Powder Dry

If you're aiming for sales in the booming market for hygroscopics . . . arm your products with the sure-fire ammunition of Western-Waxide packaging.

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For case histories and the facts on how others have saved packaging costs and increased sales of hygroscopics, write to Hygroscopic Packaging, 2101 Williams St., San Leandro, Calif. In the East, 4410 Hunt Ave., St. Louis, Mo.

Packaging for all America

CROWN ZELLERBACH WESTERN-WAXIDE DIVISION

In Canada address product inquiries to Crown Zellerbach Canada Limited, Vancouver, B. C.

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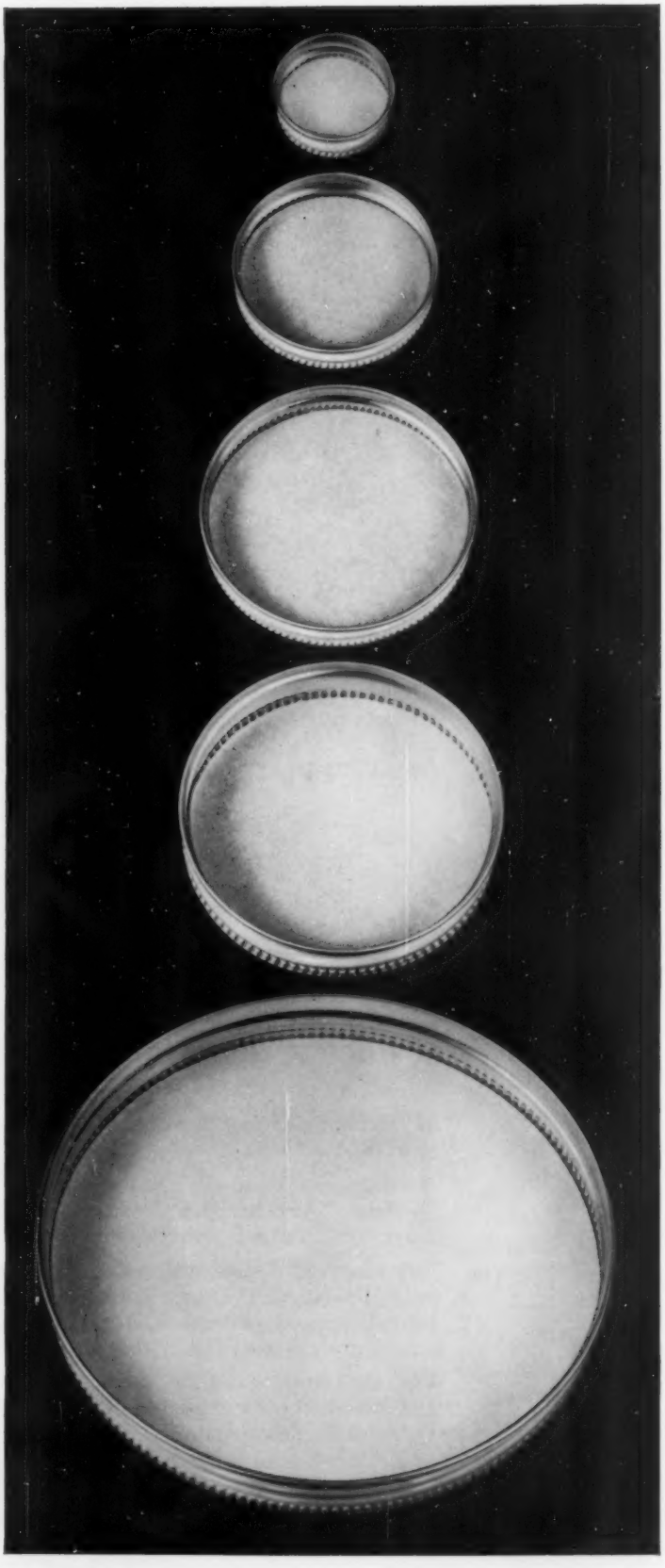
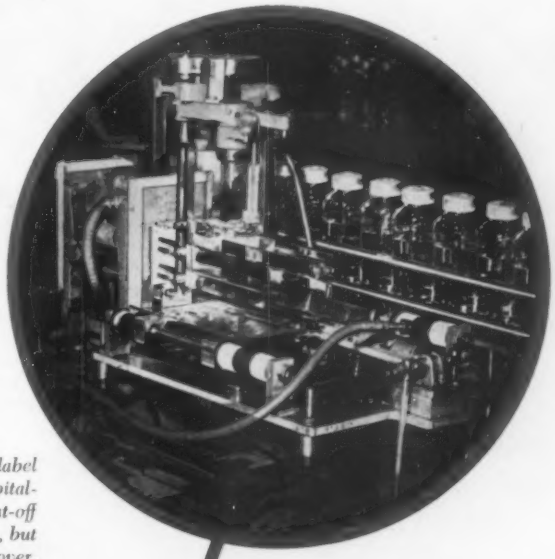


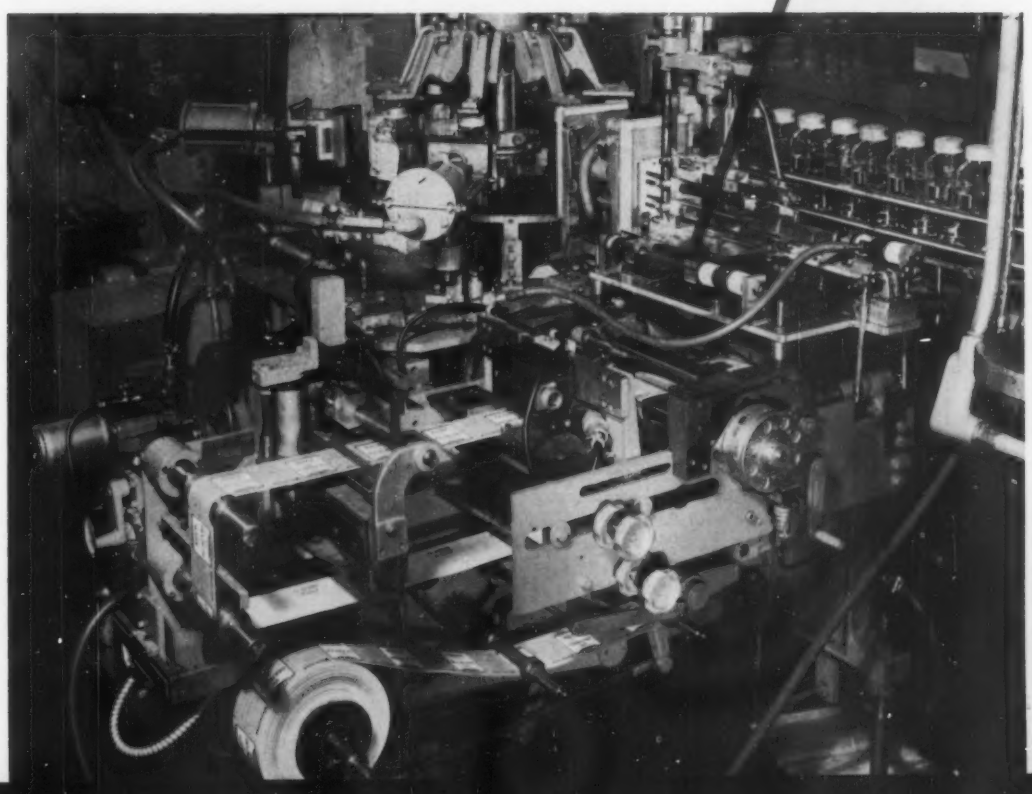
Roll and cut labeling in one

West Coast pharmaceutical house modifies new glue-type bottle labeler with quick-change magazine attachment that enables economical handling of either volume or short runs

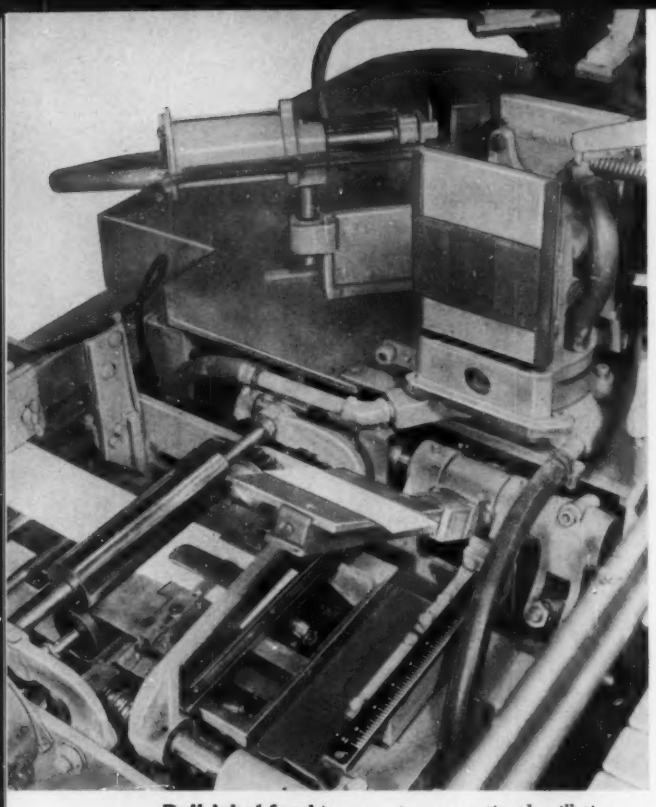
Ignoring the head shaking of experienced packaging-machinery engineers, the Glendale, Calif., pharmaceutical firm of Don Baxter, Inc., has devised a simple attachment to a brand new machine and so created what is reportedly the first glue-type bottle labeler capable of handling both roll and cut labels. This ingenious mechanism is said to save at least $6,000 in machinery investment and 25 sq. ft. of floor space by combining on one chassis two labeling techniques that ordinarily would require separate pieces of equipment.

Operating flexibility and economy were the prime

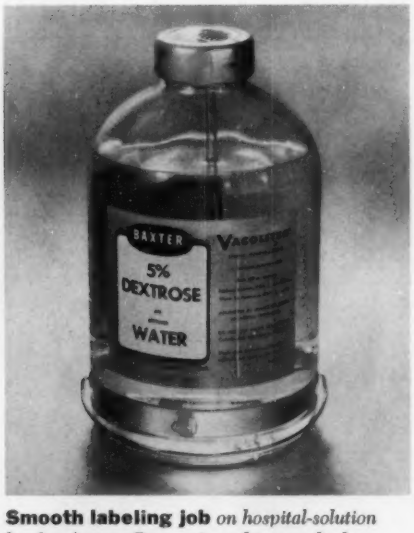




Two-in-one labeler *with table-mounted, cut-label attachment in place (shown close up at right) handles hospital-solution bottles at 65 per minute. Roll-label feed and cut-off mechanism (lower front) are idle during this operation, but remain ready for action with a 15-min. change-over.*



Roll-label feed *incorporates conventional guillotine knife (lower center), activated by a photo-eye that accurately cuts individual labels from web. Cam-operated arm (center) raises label to vertically mounted vacuum plate (upper right) which carries each label past vertical glue-applicator roll (not visible) to the bottle line.*



Smooth labeling job *on hospital-solution bottles shows efficacy of machine-applied resin adhesive. Accurate registration and cut-off web-fed stock are demonstrated by the precise edge trim across the code-positioned registration marks (left and right edges).*

goals in development of this versatile labeling unit by the Baxter firm, which packages a variety of volume and short-run ethical drug products.

The basic machine, first of its kind, was built for roll labels, but instead of employing a thermoplastic coating, it utilizes low-cost labeling-machine adhesives. While assuring the advantages of positive label identification and easy coding, these gluable roll labels are reported to cost 19% less than equivalent thermoplastic web labels. For short runs, where use of roll labels is uneconomical, the attachment for gluable cut labels is superimposed with less than 15 min. for the change-over, to capitalize on the efficiency of the new equipment. With either method of labeling, the machine operates at the rate of 65 containers per minute.

Roll-label operation

For large-volume roll labeling, the machine is equipped with conventional spindles and idlers, and a photo-eye registration device that controls both paper feed and a guillotine knife that separates individual labels from the web. A special cam-activated arm (under the label-feed bed) lifts each label and transfers it to one of two vacuum plates or label carriers, mounted back to back on a turret. Revolving counterclockwise, this turret sweeps each label across a vertical glue roll that deposits a thin, over-all coating of cold adhesive on back of the label, then carries it to a bottle brought into position by a large container turret.

Equipped with cam-action pressure arms, this second turret holds each bottle steady throughout the labeling operation, while reciprocating horizontal pressure pads smooth the label in place around the periphery of the bottle. Even distribution of adhesive on the vertical roll is assured by the use of a pump recirculating system.

Cut-label operation

To switch the machine to cut labels, a portable table-mounted mechanism is mounted on guide pins over the roll-feed mechanism, which does not run during this alternate operation. The cut-label device consists of a simple horizontal magazine fastened to a sliding carriage and propelled by an air cylinder. Timed by a cam, the air piston forces the label stack into contact with the same vertical suction plates, which separate one label at a time from the magazine. From here, the labels are glued and then applied to the bottles by the same mechanism that is used for roll labeling.

SUPPLIES AND SERVICES: Basic "Pony Express" automatic roll-feed labeler by New Jersey Machine Corp., Hoboken, N. J., Labels by H. S. Crocker Co., San Bruno, Calif.

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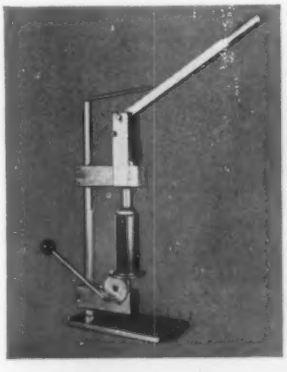

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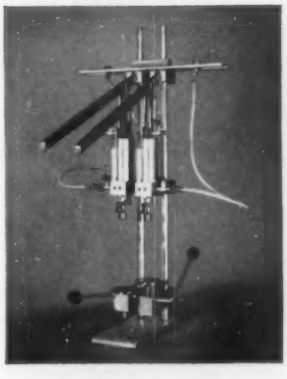

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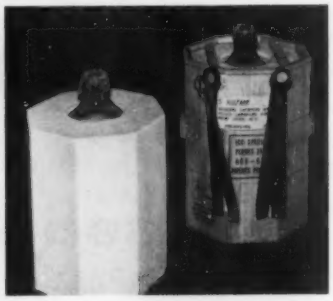

Top winner in the 1960 National Packaging & Handling Competition conducted in Los Angeles was this glass carboy in expanded polystyrene plastic and wirebound shipping container, entry of Allied Chemical Co.'s General Chemical Div. ●

Shrink-film pack

[*Continued from page 133*]

high-speed packaging applications. The film reportedly does not melt or flow at temperatures up to 500 deg. F. and multiple layers of film can be sealed positively without burning through any of the thicknesses.

Immediately after sealing, the tray pack crosses over a seal-cooling plate containing cold circulating water. From the cooling plate, the package takes a fast trip through a heat tunnel, where temperature of 210-225 deg. F. instantaneously shrinks the film to 50% of its original size. This action clamps the fruit immovably in place under a skin-tight sheath of film. It is accomplished so swiftly that the apples remain cool to the touch when the package emerges from the tunnel.

As the film shrinks, the side edges of the sleeve are drawn tight, leaving an almost circular opening at each end of the tray pack for free circulation of air. These openings allow the apples to "breathe" and also prevent fogging of the film.

The final packaging step, before case packing, is application of a simple, factual pressure-sensitive paper label to the film sleeve.

Because of the newness of this pre-packaging operation to the produce field, production costs are somewhat higher than they could be. Not only is considerable hand labor involved, but heat-sealing, cooling and shrink-tunnel equipment is identical to that used for poultry pre-packaging, where sanitary regula-

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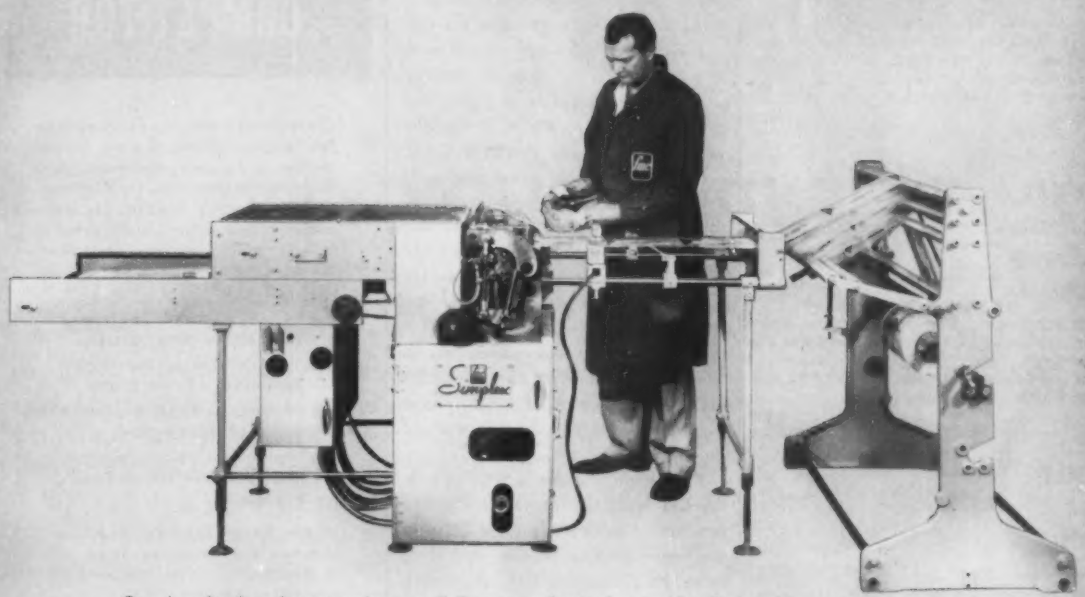

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tions require expensive stainless-steel heating and cooling plates.

The three apple packers point out, however, that packaging-line costs will be lowered with the development of machinery designed specifically for use in produce pre-packaging—including automatic tray-filling and film-wrapping equipment. The use of less expensive sealing and cooling plates will help make this operation more economical.

Packaging speeds also are expected to increase with automation. However, even under present hand-labor restrictions, average production of eight-apple tray packs is about 20 per minute. ●

Linerless bake-in pan

[*Continued from page 135*]

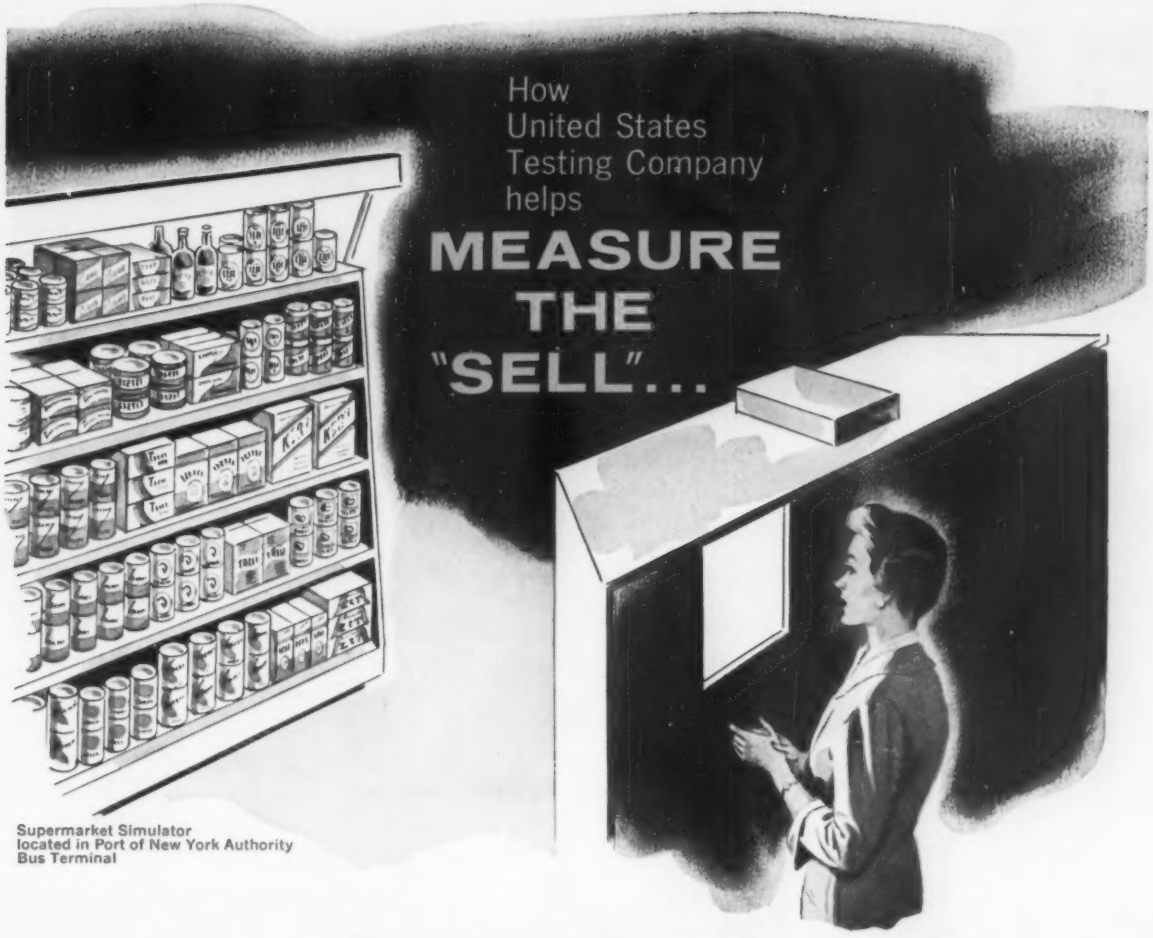
laminated paperboard container can be subjected to oven heat of more than 350 deg. F. for as long as an hour without damage.

The tray-packaged baked goods are set aside to cool after coming out of the oven. Then the containers are conveyed to automatic machinery which applies a cellophane overwrap. Finally, a printed thermoplastic paper label is applied. The product can be re-heated in the tray after removal of the overwrap.

Substantial film economies are achieved at the overwrapping station, the packager points out. These savings are attributable to the rigid tray's heat-sealable vinyl outer coating and to the straight-sided construction of the container used for most Ruth Ashbrook baked goods. This combination of characteristics permits sealing of the cellophane overwrap directly to the side walls of the tray, rather than at the bottom.

Film savings aside, a reduction in manual handling operations and a concurrent increase in manhour production cuts one to two operators from the packaging line, depending on the product being turned out.

Storage space required for baked-goods containers also has been sharply reduced. The same space that was required for 300 foil-lined set-up trays formerly used by the company now accommodates some 1,500 tray blanks. In addition to more efficient use of storage space, this also means that Ruth Ashbrook Bakeries can stock a wider inventory of container sizes and styles. ●



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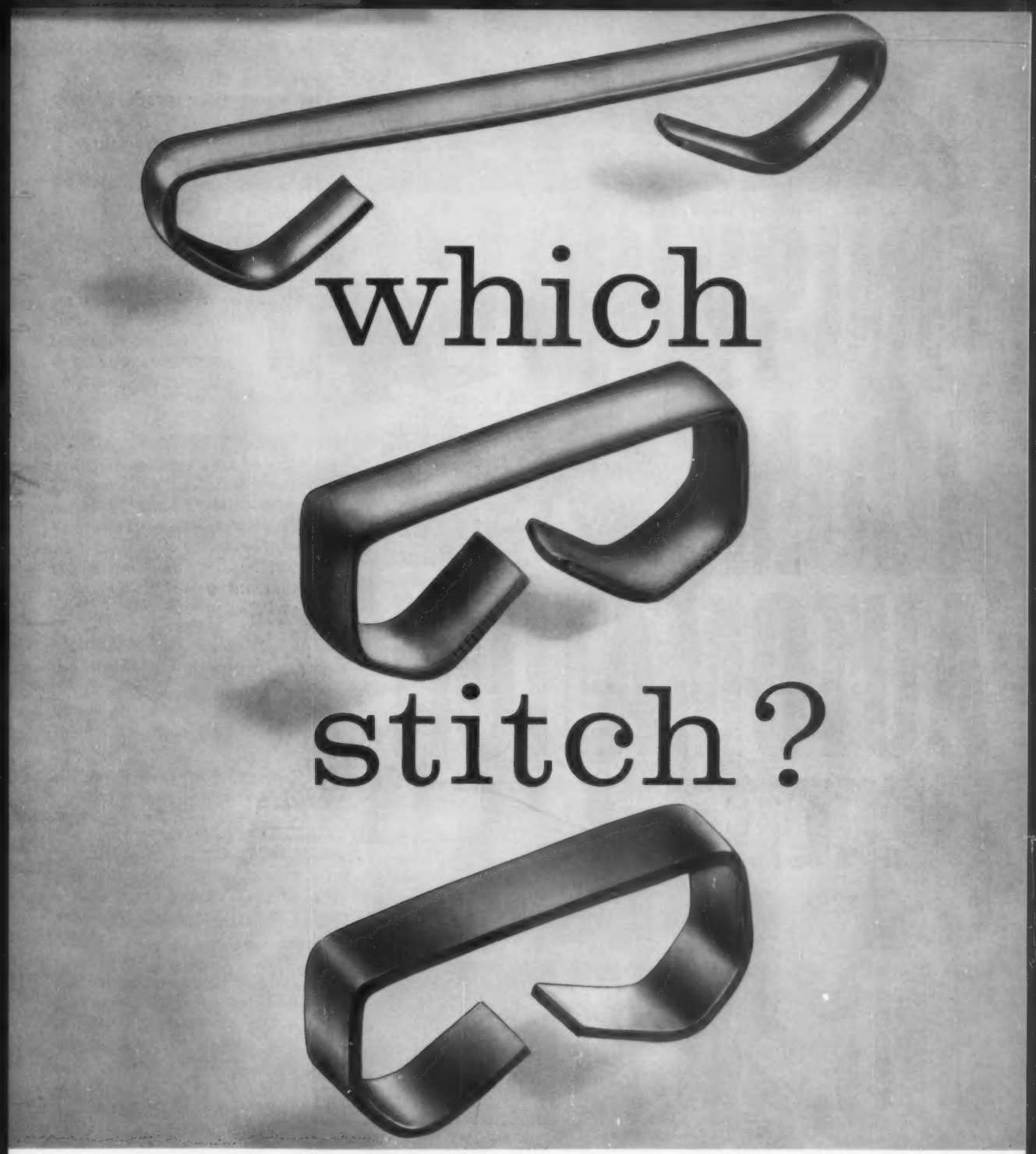

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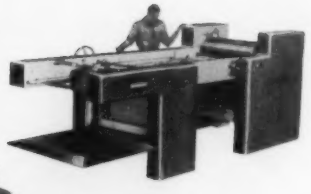

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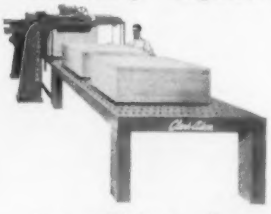

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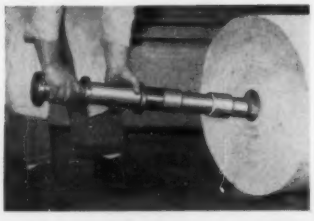

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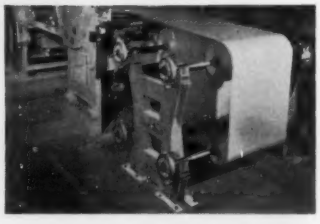

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Polymorphous polyethylene

A new technique in resin formation, which results in an improved crystalline pattern, produces film of superior strength and clarity. *By G. E. Ham* and G. D. Murphy†*

A new development in polyethylene resins for general-purpose film use was recently announced by Spencer Chemical Co. These new resins, three years in the development stage, have been designated as "polymorphous" polyethylenes.

By definition, "polymorphous" means "many formed." In recent years the term has been applied in a more specific scientific sense to elements or compounds capable of crystallizing in several forms. An example is sulphur, which may crystallize in several distinct forms. This term is applied to the new polyethylene on the basis that it can assume a variety of crystalline and non-crystalline forms.

Behind the development of polymorphous polyethylene was the theory that incorporation into one polyethylene resin of not only the normal molecular-weight distribution but, in addition, a controlled proportion of very low-molecular-weight branched material and very high-molecular-weight, more-linear material would lead to outstanding new resin characteristics. This belief was based on inferences drawn from and trends observed with conventional resins. However, these resins could not be produced by usual polyethylene processes.

With little more than a conjectural concept to start with, an extensive developmental program was carried out involving close collaboration among polymer chemists, chemical engineers, and analytical and mechanical evaluation personnel. A long

*Technical Director, Plastics Div., and †Staff Associate, Sales Service Laboratory, Spencer Chemical Co., Kansas City, Mo.

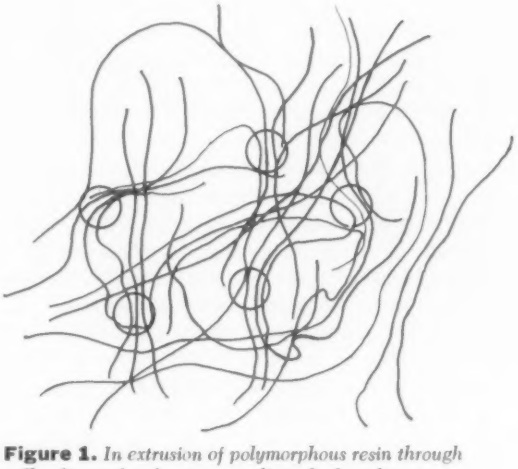


Figure 1. *In extrusion of polymorphous resin through a film die, with subsequent cooling, the long linear chains crystallize into a network of "ordered" regions with each chain running through several crystallites. The crystallites serve as "tie points" of a given chain with many of its neighbors.*

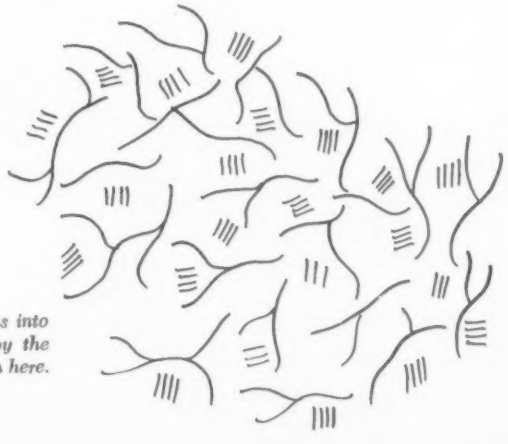


Figure 2. *Continued incorporation of chains into crystallites of ever-increasing size is limited by the presence of the shorter branched chains as shown here.*

series of statistical polymerization experiments was carried out to reach the optimum combinations resulting in Spencer's 5300 series polyethylene.

Theoretical basis

It is believed that many of the new characteristics of these new resins stem from a controlled crystallinity pattern within the resin. It is believed that the low-molecular-weight, more-highly branched components act as crystal growth regulators during film extrusion and cooling. On the other hand, the very long, more-linear chains contribute outstanding mechanical strength to the film.

During film extrusion, the long, more-linear chains crystallize into a network or maze of crystalline agglomerates known as "spherulites." There is evidence that the crystallites are tied together by the longer chains—that is, a long chain participates in two or more crystallites. Hence, the crystallites act as effective cross-links which add rigidity and resilience to the over-all network structure of the film (Figure 1).

The desired result, however, would not be achieved if merely the long, more-linear chains participated in this crystalline growth. The shorter, branched chains act as necessary crystal-growth regulators, preventing the growth of the crystals beyond about 100 angstroms in diameter. They also serve to impede the agglomeration of the crystallites into spherulites large enough to be seen, maintaining the desirable clarity and lack of haze in films (Figure 2).

Most important, the over-all percentage of crystallinity in the final film is kept at a level of about 50-55% by the presence of the branched components. This level of crystallinity is below that of competitive general-purpose film resins which normally produce about 70-75% crystallinity.

X-RAY CRYSTALLINITY- THE EFFECT OF CRYSTALLITE SIZE AND CRYSTAL ORIENTATION

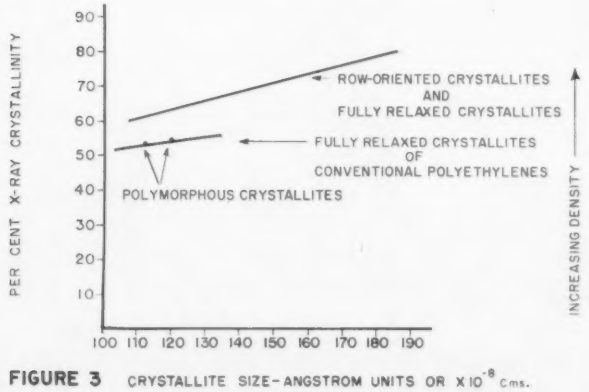


FIGURE 3 CRYSTALLITE SIZE-ANGSTROM UNITS OR $\times 10^{-8}$ Cms.

The higher amorphous content leads to outstanding impact- and stress-distribution characteristics in the films. In conventional polyethylenes with a low degree of crystallinity—that is, about 50%—the agglomeration of crystallites into spherulites is not impeded and a hazy, low-gloss film results. Accordingly, for the first time, a film of relatively low crystallinity and small crystallite size has been made commercially available. In this way, the desired mechanical properties and optical properties have been made possible in a single material.

An extra dividend of polymorphous polyethylene is that the combination of very long, more-linear chains with low-molecular-weight branched chains allows easy extrudability of compositions which would normally be expected to be much more difficult to extrude. The low-molecular-weight branched chains serve as an internal lubricant for the longer chains. Apparently, under these conditions, the longer chains tend to be more densely coiled on themselves and do not contribute to over-all viscosity of melt to the degree normally expected.

Beyond advantages in mechanical working of the resins in extrusion, it is possible to process these resins into blown tubing over a wide range of blow-up ratios without encountering straight-line tear and impact deficiencies. These characteristics stem from the special balance in molecular-weight distribution and branching distribution.

Investigation

Insight into the peculiar structure of polymorphous films has been obtained from work carried out by Brader (1)[1]. In this study various types of cast and blown film specimens of conventional and polymorphous polyethylenes were examined through X-ray diffraction techniques.

The various polyethylenes when extruded as film crystallize in a characteristic way. There was found to be a definite relationship between the degree of measured X-ray crystallinity, the size of crystallites so formed, the position of orientation of the crystallites with respect to each other and the resultant physical properties of the film. These relationships are illustrated in Table I.

In conventional polyethylenes falling within the 0.915- to 0.935-density spectrum, there is an almost direct relationship between weight per cent X-ray crystallinity and resin density. Increasing resin density will usually mean increasing per cent crystallinity; however, molecular-weight distribution, molecular configuration and thermal history will also affect final degree of crystallinity (Figure 3).

There is also a direct relation between per cent crystallinity and crystallite size, the smaller crystal-

[1]Numbers in parentheses identify References appended.

lites existing at lower levels of crystallinity. Also, both crystallite size and crystallinity are related to the size and arrangement of crystallite aggregates or spherulites. Usually, large spherulites occur at low per cent crystallinites and small spherulites at high crystallinites due to apparent boundary restrictions that are imposed by the large number of neighboring spherulites.

There has been considerable investigation into crystalline configuration and into the growth mechanism of larger spherulites. No universal model adequately provides a complete explanation, although two morphologies or configuration theories have been proposed by Keller (2, 3) which adequately illustrate different crystal orientations, hence different physical properties. Both morphologies are based on crystallites which are helically coiled flat ribbons of several polymer chains, but each differs in planar orientation.

The "row-oriented" (Type II) crystal structure has a disk shape whole axis which is parallel to the draw or machine direction of extrusion. The crystals radiate out from the center of the disk; furthermore, the disks are stacked row on row in an ordered cylindrical manner.

The other morphology is named "fully relaxed" (Type I) and in this case the coiled ribbon-like helices form as loosely packed, randomly arranged rods. The particular crystal characteristics can be directly related to film physical properties. In conventional polyethylenes, the low-per-cent-crystalline, low-density films exhibit toughness which is due to a large background of disordered, amorphous or branched low-molecular-weight material which distributes the impact stresses throughout the film. In the higher-density films of high crystallinity, the crystallites have regimented or "row" order, coupled with less-amorphous material, which results in a film with weak impact strength.

Similarly, the conventional films have their own peculiar optical properties. The low-density, low-per-cent-crystalline films have "fully relaxed" crystallites which, due to their random rod-like nature and small population density, tend to form large crystal aggregates or spherulites. These spherulites are sufficiently large to cause excessive light scattering, resulting in cloudy, hazy film. The spherulites of the large-size crystal typical of the "row-oriented," higher-density films are restricted to small size by boundary conditions imposed by interference from the many neighboring spherulites. These small spherulites offer little light scattering and consequently result in a film which is relatively clear, with low haze.

This describes why conventional polyethylenes of the 0.917-density range have been traditionally

FILM IMPACT STRENGTH - EFFECT OF RESIN DENSITY

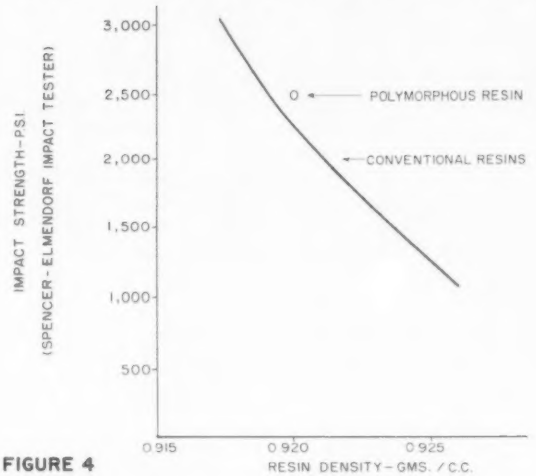


FIGURE 4

tough and cloudy, while film made from resins of the 0.922-0.925-density range are characteristically clearer, but of poorer strength.

Polymorphous polyethylene is unique in that it exhibits the desirable properties of both crystalline forms. Through exhibiting the low crystallinity of the "fully relaxed" crystallites, the film has the toughness, tear resistance and impact strength of this group. However, due to the controlled nature of the amorphous or highly branched regions obtained through a particular molecular-weight distribution and molecular configuration, a regulation is imposed on the extent of crystal growth. In turn, this regulation minimizes the final crystal aggregate

Table I: Relationship between per cent X-ray crystallinity, crystallite size, crystal orientation and film physical properties for polyethylene resins

	Type I (0.917) density		*Type II (0.923 density)*
	Fully relaxed	*Polymorphous*	*Row oriented*
Per cent X-ray orientation	45-55	52-54	65-75
Relative crystal size	Small	Small	Large
Effect of crystal orientation	No effect	No effect	Considerable
Relative size of crystal aggregate-spherulite	Large	Small	Small
Relative values			
Strength or toughness	High	High	Low
Clarity-gloss	Low	High	High
Haze	High	Low	Low
Density range	0.920	0.920-0.921	0.922-0.935
Specific values			
Dart drop test, gm. (6)	120	140	50
Visking softball, ft. (6)	4	3½	1½
Sand-bag drop, ft. (6)	9	9	6
Gloss 60 deg. head	60	100	90
Haze, %	+10	+5	+6

NOTE: The specific values were measured on 1.25-mil blown tubing prepared from polymorphous resin, 0.917 density Type I and 0.923 Type II conventional polyethylene resin.

FILM CLARITY—EFFECT OF RESIN DENSITY

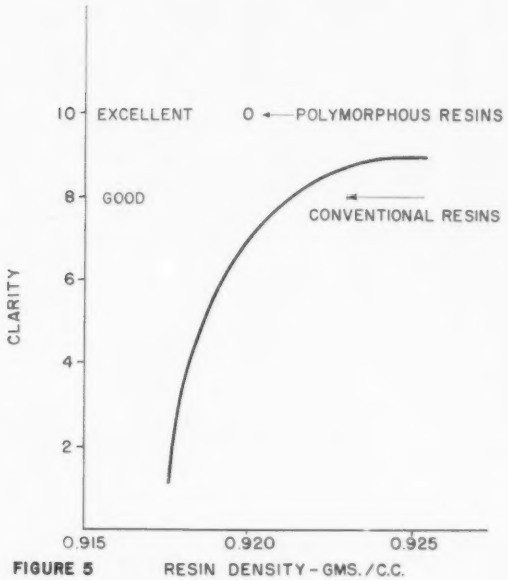


FIGURE 5

size. This characteristic amorphous material gives polymorphous film the microscopic spherulite characteristic of row-oriented, clear, low-haze film.

The relationship between the strength of conventional polyethylene blown film and resin density is illustrated by the curved line in Figure 4. This illustrates that impact strength decreases rapidly as resin density increases. The small dot shows the impact strength of typical commercially prepared "Poly-Eth"[2] 5365 polymorphous polyethylene film (4). The strength is better than that of conventional 0.920-density film, is quite comparable to film from 0.917-density resin and is much superior to conventional film from 0.925-density resin. Similar favorable strength properties of the film are also illustrated in Table I.

These factors were determined by the following strength tests: the "dart drop," the sand-bag drop and the "softball drop" test.

Again this unique feature is further illustrated by considering film opticals as indicated in Figure 5. The conventional polyethylene opticals are illustrated by the curved line which shows how film clarity rapidly improves as density increases from 0.917 towards 0.925, where clarity is apparently optimized for conventional resins. The dot represents the clarity of polymorphous resin which has even better optical properties than were once considered excellent for conventional resins.

Field testing

These new polymorphous polyethylene resins have been extensively field tested. Their unique combination of strength and clarity was more than apparent when the polymorphous polyethylene was commercially extruded in customer plants. The results of typical commercial evaluations by different extruders are illustrated by Table II. This table illustrates the consistently higher strengths and better opticals obtained from the polymorphous film in comparison with the general-purpose films obtained from current conventional polyethylene resins of the 0.923- to 0.925-density range.

In these listed evalu- [*Continued on page 228*]

[2]"Poly-Eth" is a registered trademark of Spencer Chemical Co.

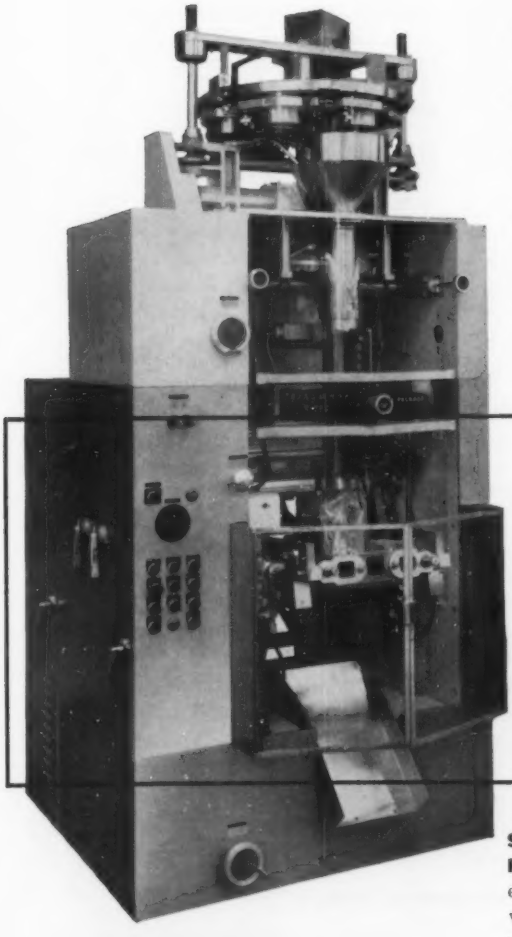
Table II: Properties of commercially prepared polyethylene film prepared from Spencer "polymorphous" polyethylene and competitive "conventional" polyethylene in six commercial extrusion plants

	Extruder No. 1		*Extruder No. 2*		*Extruder No. 3*		*Extruder No. 4*		*Extruder No. 5*		*Extruder No. 6*	
	Resin		*Resin*		*Resin*		*Resin*		*Resin*		*Resin*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*C*	*A*	*C*	*A*	*D*
Spencer impact, p.s.i.	2420	1900	1780	1110	2050	1810	1880	1400	1890	1640	1900	1610
Elmendorf tear, gms. MD	135	125	130	260	400	450	120	110	220	170	160	110
Elmendorf tear, gms. TD	170	120	150	150	220	200	115	105	220	160	170	170
Gloss, 60 deg., head	108	91	106	89	92	83	104	102	103	96	108	96
Haze, %	5.3	7.0	6.2	10.4	6.5	7.9	4.8	6.0	5.8	10.8	4.8	7.6
Slip coefficient	0.14	0.25	0.15	0.13	0.14	0.21	0.16	0.14	0.14	0.17	0.20	0.26

NOTES: MD = tear measured in "machine direction" or in direction of extrusion.
TD = tear measured in "transverse direction" or perpendicular to direction of extrusion.
Resin A = 0.921-density "polymorphous" resin.
Resin B = 0.923-density competitive "conventional" general-purpose film resin.
Resin C = 0.924-density competitive "conventional" general-purpose film resin.
Resin D = 0.925-density competitive "conventional" general-purpose film resin.

10 BIG REASONS

why the Transwrap S-750 is best for frozen food bag packaging



- **Up to 75 bags a minute.** Convenient handwheel regulates speed from 25 to 75 bags per minute.
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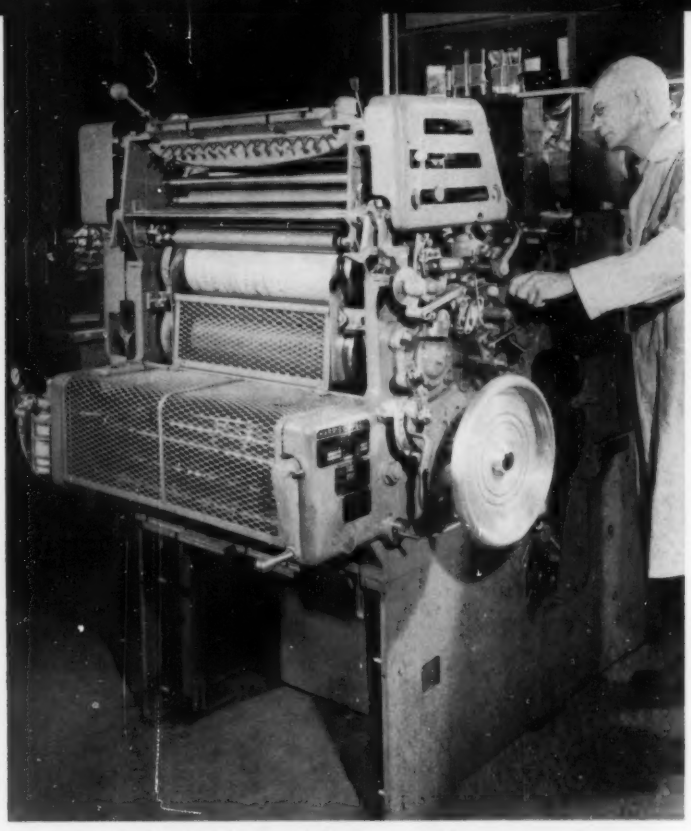


Figure 1. *Single-color laboratory litho press as used at Alcoa Research Laboratories in the development of improved wash and primer coatings for litho ink adhesion to foil and to foil laminations.*

Lithography on foil

A briefing for packagers on the new possibilities and advantages of offset printing on foil, and a report on research which promises to eliminate problems.

By M. A. Miller and E. M. Eiland†*

Offset lithography has been used successfully by aluminum producers for the past 20 years in metal decorating of sheet aluminum. Rotogravure and flexographic printing on aluminum foil offer no great difficulty in commercial application. However, it has only been in the last few years that offset lithography has been used commercially on aluminum foil and foil laminates. Improved foil coatings and inks have been the two most important factors in making lithography on foil commercially practical.

These developments and advances are important to packaging people because lithography offers high-quality printing on shorter runs and at lower costs. The ink manufacturers have done an outstanding job. The efforts of this laboratory have been directed toward finding improved coatings and treatments which will permit excellent printing-ink adhesion even on so-called "contaminated" foil surfaces.

The recent interest in lithographic printing on foil has been the result of several factors.

First, there is an area consisting of short- and medium-length runs of high-quality printing that cannot be done economically by rotogravure because of high printing-cylinder cost. Such printing can be done satisfactorily by flexography where fine line and halftone are not required, but from the standpoint of print quality, flexography cannot compare with lithography. Lithography on foil is ideal for these short- and medium-length runs where high-quality reproduction is needed.

Second, a large number of shops have only offset presses or offset and letterpresses, and some are feeling the competition from shops that print foil with similar equipment and from others with rotogravure presses. In some cases lithographic shops that have never printed on foil are being offered jobs that they do not wish to turn away.

Third, the impressive growth of lithographic printing, sometimes at the expense of letterpress, has probably carried over into foil printing.

Fourth, lithography gives very good reproduction on foil and on all counts is as good as, or better than, any other printing process in this respect.

Application to sheet

Some discussion of the background of the art and its use in lithographic decorating of sheet aluminum will contribute to an understanding of the recent developments in printing on foil.

Metal decorating of sheet aluminum by offset

*Chief and †Research Engineer, Foil & Packaging Div., Alcoa Research Laboratories, New Kensington, Pa.

lithography is performed in the same manner as for tinplate and with the same ease. However, special pre-treatments, unique to aluminum, are required. A paper discussing surface preparation of aluminum sheet, alloys, lacquers and inks, and printing methods, has appeared in a recent publication (1)[1].

With the apparent advent of the aluminum can for motor oil, frozen juices and other applications, lithography becomes very important. Lithography of aluminum collapsible tubes has been discussed by a number of writers (2), but basically this is not much different from printing on aluminum closures or can stock. The surface condition of the metal is the most important feature.

It has been stated that lithography was born in a German province from wax crayon drawings on smooth stones. Since the non-waxed areas were water receptive and the crayon-waxed areas were ink receptive, this was the clue—offset lithography was only a step away. As you will recognize, the term "offset lithography" refers to the offsetting on the inked area to the printing surface via a rubber blanket (3, 4, 5).

Of great importance is the ability of offset lithography to permit free rein to the designer, since it reproduces colors and halftones with ease.

Foil ranging in gauge from 0.00035 to 0.006 in. thick has been printed by one or more processes. Usually annealed foil from 0.00025 in. thick to 0.006 in. is laminated to paper, carton stock or board before printing. Foil 0.00035 in. thick is most commonly used for laminating. Foil may also be laminated to other substrate films such as polyester, cellophane, polyethylene and a variety of other materials for specific applications.

Water-based adhesives, such as casein-neoprene latices or vinyl emulsions, are most commonly used for laminating. Hot melts, wax and thermoplastic adhesives may be used for special laminations.

Foil laminated to paper and board, in the range of 45-lb. paper to 22-pt. board, has been lithographed successfully. Annealed foil/30-lb.-paper laminate has been offset printed, but some difficulties with feeding and register have been encountered, particularly on large presses. With the lighter stocks, register can be improved by leaving about ½ in. of free paper stock at the gripper edges of the sheets.

Handling of sheeted foil-paper laminate is quite similar to that for paper alone. As with paper, if the water content of the paper part of the laminate is not in equilibrium with atmospheric humidity, the edges will gain or lose water and curl as a result. The paper part of the laminate can be treated to reduce curling, but such treatments do not, by themselves, completely eliminate this problem.

Coatings and inks

For trouble-free offset printing, ½ lb. to 1 lb. of lacquer solids per 3,000 sq. ft. of foil surface is needed to help absorb the ink, thereby aiding drying. As a general-purpose coating, a vinyl-copolymer formulation is probably best. Some vinyl copolymers will not adhere to foil and formulations for foil must contain a substantial percentage of

[1]Numbers in parentheses identify References appended.

Figure 2. *Samples of litho printing on a foil-paper lamination show (upper photo) proper ink/water balance and (lower photo) flood-out or emulsification of ink at lower right of sample due to too much water.*

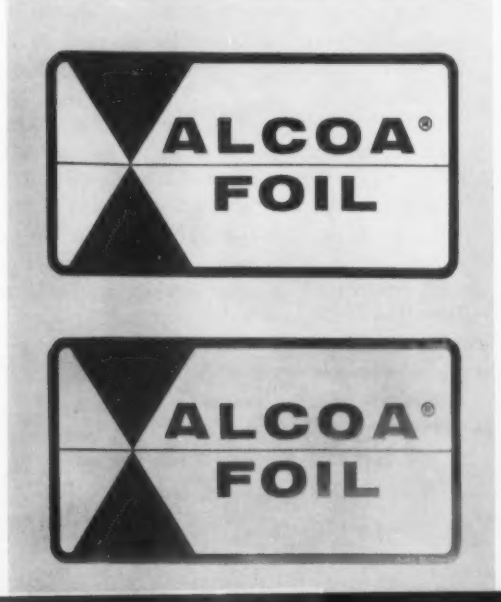


Figure 3. *Showing paper side of a foil-paper lamination sheet fed to litho press. Upper photo, offsetting of ink from sheet below due to improper ink-water balance; below, no offsetting with proper ink/water/drier balance.*

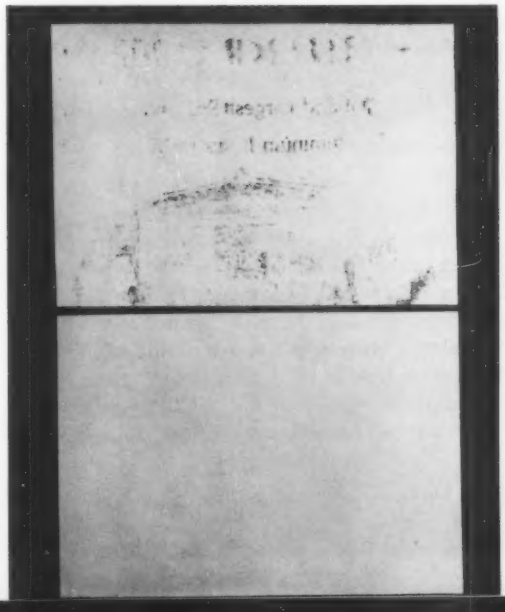


Figure 4. *Lithographic printing of aluminum sheets, as shown by these citrus-concentrate cans, poses no problems. It is done in much the same manner and with the same ease as tinplate.*

specific vinyls. Experience has shown that some lacquers, otherwise good on foil, give poor offset-ink adhesion and some others retard drying. Untried formulations should be pre-tested—not by hand application, but on a litho press—before the final commercial runs are made.

Most ink companies can supply satisfactory foil offset inks. As with paper, there must be cooperation between the ink maker and the printer to insure that proper ink is supplied for the specific coating and for the printing conditions.

Plates. For foil printing, deep-etched plates, copperized aluminum plates, and bi- and tri-metallic plates have been recommended and give good results. Good printing has also been done using dry offset plates. Satisfactory printing with ungrained pre-sensitized plates was also done in our labs.

Experimental press work

For the purpose of determining the best printing methods and to investigate possibilities for simplifying offset on foil, a considerable amount of experimental work has been done on a 14½ by 20½ in. offset press in our laboratories (Figure 1).

At the outset of the work, the matter of attaining a balance between ink and fountain solution gave the most trouble. For commercial offset printers printing on aluminum foil for the first time, the importance of maintaining proper balance of ink and fountain solution cannot be overemphasized.

When a large amount of fountain solution is applied to the plate, the ink will not adhere to the edges of the image. This effect is shown in Figure 2. When this occurs, the fountain can be adjusted and paper run through the press to remove excess water. This, however, often consumes considerable paper stock and also valuable time is lost.

If an attempt is made, by letting down more ink, to recover a partially lost printing area caused by excess fountain solution, the print quality remains relatively poor. The ink does not flow out properly. In addition, when excess ink is applied, the printed sheets stick and offset in the delivery pile (Figure 3) and drying is slowed down.

A standard procedure for insuring proper ink-water balance was developed. The position of the cam for satisfactory fountain-solution application was determined. Then a ruler was mounted parallel to and near the cam shaft. By means of a reference point on the cam shaft it was possible to make sure at the beginning of each run that the fountain-solution delivery rate would be satisfactory. With this arrangement, only very minor adjustments have been necessary after beginning a run.

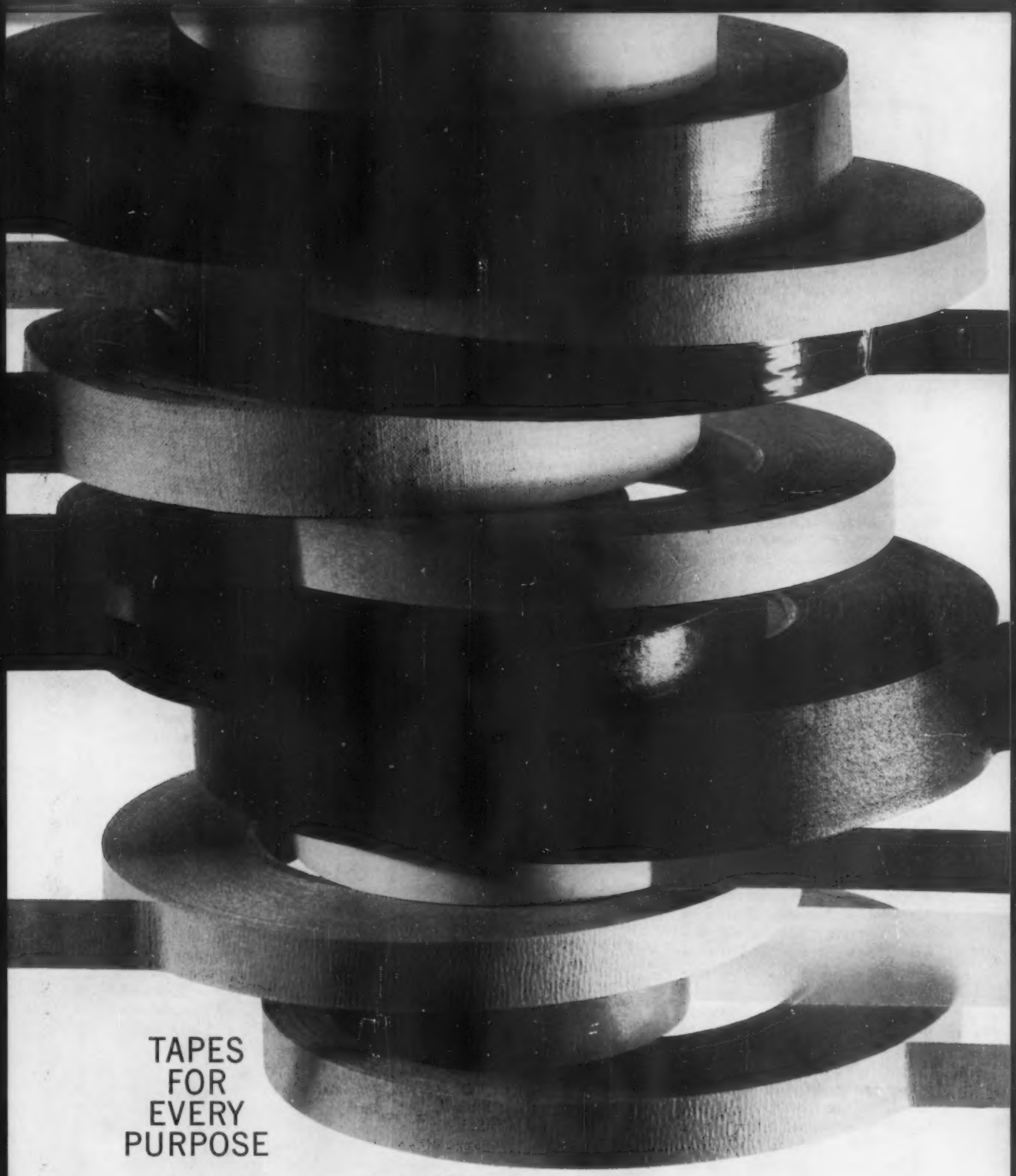
At the beginning of a run, with dry molletons, 50 cc. of fountain solution was poured on the molletons and the press allowed to run 15 min. with water on before printing was begun.

The ratchet pawl, which governs the amount of rotation of the ink fountain roll, was always set in the same notch at the beginning of each run. When the printing began, the amount of ink letdown was adjusted to give the desired color match.

Performance of foil inks from the standpoint of sticking or offsetting in the delivery pile is greatly influenced by the use of driers. A good white ink with a very small amount of drier furnished by an ink maker was printed to give good coverage in one pass and stacked into a lift of 400 sheets. No spray powder was used. After 24-hr. drying, the sheets were stuck together by the ink. By adding 1 oz. of drier per 5 lbs. of ink, the sticking in the delivery pile was only moderate.

With full complement of drier in the ink and 2 oz. per gallon of liquid drier added to the fountain solution, only a slight amount of sticking and offset was encountered. The active constituent of the liquid drier is cobalt acetate. This solution can be obtained from most ink makers. Too much drier in the ink was found to cause drying on the form rollers. The additional drier supplied in proper amount by means of the fountain solution is beneficial and does not cause detrimental effects.

Application of spray powder was found necessary to eliminate offsetting com- [*Continued on page 221*]



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Controlling static electricity

Q: *The use of chemical compounds in the control of static electricity is referred to in the* MODERN PACKAGING *Encyclopedia Issue for 1960, on page 522. We are particularly interested in the use of these compounds for spraying stencils for silk-screen printing of containers.*

Can you give us some information on what kind of chemical compounds are recommended for this purpose and the method of applying these compounds to silk screens, the frequency of application, etc.?

A: One of the general classifications of chemical compounds which are used in the control of static electricity is "quaternary ammonium salts." These compounds are available from several companies who supply industrial static-eliminating equipment and materials.

These materials are supplied at reasonable cost in ready-to-use form packaged in aerosol spray cans. They are also sold in bulk as concentrated liquid to which water or alcohol is added to make ready-to-use solution. Minimum dilution of the concentrate is 20 times, although effective results are produced in many applications with dilutions up to 50-100 times and, when the material is applied in a bath and allowed to dry, with dilutions sometimes up to the thousands.

Frankly, we have very little information on the use of chemical compounds on silk screens. We do not believe, however, that there would be much of a problem in applying the spray while the screen is clean, but we do not know exactly what would happen after the ink has been applied. We would think that in the course of operations, the under side of the screen would have to be sprayed and this periodically, depending on the amount of friction involved which would cause the spray coating to rub off. Another consideration in the use of the various sprays is the type of solvent and its compatibility with the inks used. We would suggest that you obtain a can of the spray material and experiment with it to determine its effectiveness. In concentrate form, we believe, the material would be much more difficult to apply.

Another approach to your problem would be the use of an electrical static bar which is supported from the squeegee so that it would constantly treat the screen as the squeegee moves back and forth.

We suggest that you contact one of the companies that supplies static-eliminating equipment and materials to aid you in working out your specific problem. You will find a list of such companies in the Buyers' Directory of the MODERN PACKAGING *Encyclopedia Issue.*

Invisible code dating

Q: *We must code date our boxed candies for sales and quality control and must be able to read the mark without removing the cellophane overwrap. Yet, printed codes detract from our fancy, embossed box design and also look messy when placed on the glossy underside of the box. Is there any other method that can provide our package with an inconspicuous, but readable, code?*

A: We concede that an ink code on the top or side of highly decorated set-up boxes might be unattractive, but cannot agree that a small, neat code mark applied in some harmonizing color at the bottom corner of the box would be messy. You should investigate modern bottom-coding devices that can be attached to your overwrapping machine for accurate registration and alignment of symbols that are crisply printed by either rubber or metal plates.

We stress the advantages of conventional printing, because other techniques are more complex and have other problems. However, if standard ink symbols are still undesirable, you might try either punch coding or the use of invisible inks, which are read under ultraviolet light. In the first method, pinpricks are applied at some convenient point in a pattern that spells out the code data. While inconspicuous, this method is ordinarily hard to read and would be even less legible on highly embossed surfaces. The use of invisible inks that fluoresce under ultraviolet light is practical, but requires the salesman to carry a piece of special lighting equipment.

Perforating film bags

Q: *We use flat polyethylene bags for packaging hosiery. These bags handle better if they are perforated with one or two holes to release excess air. We have been perforating our own bags before filling, but the edges of the holes tend to stick together. This sticking gives us serious trouble in loading the hosiery and often results in a torn bag.*

Is there any special know-how that we lack, or machines for perforating these bags to give clean holes?

A: There is widespread use of perforated bags and films for special purposes. The thermoplastic films such as polyethylene are much more difficult to punch or cut cleanly than is the punching of paper. However, a sharp and properly designed and maintained punch press that is kept cool will make clean holes in the film, with free edges.

Your best procedure probably would be to have your bag maker install a punch that will perforate the film before the bags are formed. This would perforate only a single wall, so that there would be no possibility of blocking or sticking in the finished bag. One or two small-diameter holes should suffice to release enough air for your filling and handling operations.

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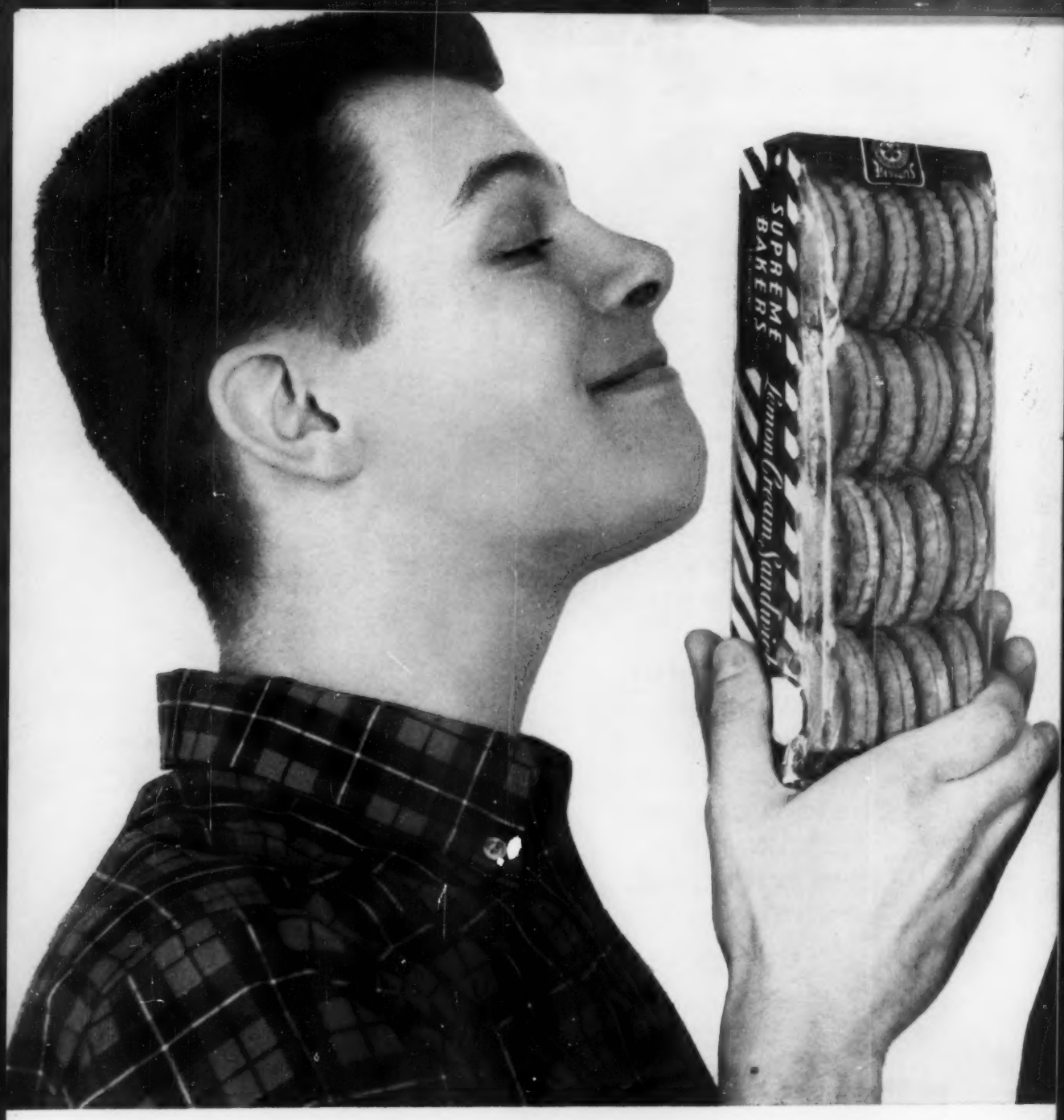

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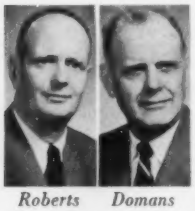
Plants & People

The Enjay Co., New York, has become the **Enjay Chemical Co.**, a div. of **Humble Oil & Refining Co.** of Houston, Tex. Enjay will be directly responsible for both the marketing and the coordination of Humble's chemical products activities in the U. S. In addition, Enjay will sell chemicals to **Esso Export Corp.** for distribution in foreign markets. Enjay's business covers a wide range of chemical raw materials, including polymers such as butyl rubber and polypropylene plastic. **J. E. Wood, III,** pres. of the former Enjay Company, has been appointed chief exec. of the new Humble division.

W. W. Roberts, division sales mgr. since 1953 for the Flexible Packaging Div. of **Standard Packaging Corp.,** New York, has been promoted to division mgr. Mr. Roberts, who will make his headquarters at the Div.'s Clifton, N. J., plant, joined the firm in 1950. **Elliott L. Domans** has taken over Mr. Roberts' former job as division sales mgr. Mr. Domans has been with the company since 1950. **Robert L. Coutts,** who joined the Flexible Packaging Div. in 1958 as a sales trainee, has succeeded Mr. Domans as Eastern sales manager.



Roberts *Domans*

Rexall Drug & Chemical Co., Los Angeles, and the **El Paso Natural Gas Co.** are collaborating in a major venture to produce and market petrochemicals. Plans call for manufacturing facilities in Odessa, Tex., for the production of olefins, polyolefins and chemicals. First plants are scheduled to be working early in 1962, producing ethylene, propylene, conventional polyethylene, linear polyethylene and polypropylene. The Texas company will furnish the raw materials. **Ralph Knight,** pres. of Rexall Chemical Co., will direct the polymer and chemical operations. **John Provo,** v.p., will be in charge of production. **Dr. Michael Erchak,** v.p., will supervise research and development. **C. L. Perkins,** pres. of El Paso Natural Gas Products Co., and **C. L. Moore,** v.p., will be in charge of the hydrocarbons and olefin-producing plants.

The Champion Paper & Fibre Co., Hamilton, O., has acquired **Crown Plastic Cup Co.** of Forth Worth, Tex. Champion's new sub., purchased from **Crown Machine & Tool Co.,** makes "Thermokup" disposable plastic drinking cups and injection-molded items. **Charles G. Ellington,** pres. of Mid-West-Pak Corp., another Champion sub., will be chief exec. of the newly acquired company. **J. M. Harrison,** exec. v.p. of Crown Machine & Tool Co. and inventor of the "Thermokup" line, will remain as exec. v.p. for development for the new sub. Additional plastic products are being planned for manufacture at the Fort Worth plant.

The **Foster Grant Co.,** Leominster, Mass., plastics resin and chemical producer, is entering the field of polyolefins and is planning to build a multi-million dollar plant. High-pressure polymerization technique will be utilized in the manufacturing process. Initial plans in the firm's expansion program call for the manufacture of a polyethylene material with a broad density range, melt index and other relevant properties. Long-range plans include polymerization and co-polymerization of propylene, butylene and other hydrocarbons.

A program for the construction of a $50 million complex of chemical plants for converting hydrocarbons into chemical products, has been revealed by **The Borden Co.** and **United States Rubber Co.** A jointly owned chemical company has been formed to handle the construction of a major chemical manufacturing unit using natural gas or low flash point liquid fuel for the production of acetylene and vinyl chloride monomer. The **Monochem, Inc.,** plant on which construction will start later this year, will have an initial annual capacity of 80 million pounds of acetylene and 150 million pounds of vinyl chloride monomer. One of the first uses of Monochem's output would be in the manufacture of vinyl plastic resins which both Borden and U. S. Rubber produce.

Arthur T. Safford has been named to the newly created position of director of mktg. for **Olin Mathieson Chemical Corp.,** New York. He is succeeded as v.p. for mktg. for the organization's Packaging Div. by **Angus J. Gardner.** Mr. Safford, who joined Olin in 1950, was formerly associated with Plax Corp. as exec. v.p. Mr. Gardner is former v.p. in charge of sales for Rice Barton Corporation.

Safford *Gardner*

Jack N. Porterfield has established himself as an international manufacturer's rep. for aluminum-can-making machinery. Mr. Porterfield now has exclusive international rights to sell and install the continuous strip casting system for making impact extrusion slugs and strip for lids, developed while he was chief engineer of **Aluminum International, Inc.,** and can dept. mgr. at **Coors Porcelain Co.,** both of Golden, Colo. He also has North American license to sell and install lines to make the one-piece, aluminum aerosol can patented by **Bombrini Parodi-Delfino Co.** of Rome, Italy. Mr. Porterfield is located at 4120 Reed St. in Wheat Ridge, Colo.

The plastics dept. of **Reynolds Metals Co.** has been given full divisional status due to increasing importance of plastic film for wrapping, according to the company. **Woodrow J. Vogel** has been promoted to gen. mgr. of the new Plastics Div. He was formerly gen. mkt. mgr. for plastics and mgr. of Reynolds' Grottoes, Va., plastics plant.

Roy E. Hanson, v.p. of **Milprint, Inc.,** Milwaukee, and pres. of **Milprint Overseas Corp.,** has retired after 42 years of service. He will continue to work for the company on a special consulting assignment basis. Mr. Hanson was Milprint's first sales mgr. in 1932. He was one of the founders and first pres. of the **National Flexible Packaging Assn. Frank Hanis,** Mr. Hanson's asst., will succeed him in the operations of pricing and estimating. Mr. Hanis has been with Milprint for 22 years. **Edwin T. Wood** has joined the company in the new post of market planning mgr. He was formerly new product coordinator for the Metal Can Div. of Continental Can Co. Mr. Wood's appointment is part of a current expansion program in Milprint's marketing division.

Hanson *Wood*

R. V. Vosburgh has been named a v.p. of **Loma Industries,** Fort Worth, Tex., and will head the sales dept. of Loma's blow-molded products div. The div. is devoted to packaging, industrial, commercial and consumer products. For the past 10 years, Mr. Vosburgh has been in charge of sales and advtg. for **Imco Container Corp.,** where he held the title of exec. v.p. He was previously associated with the glass container and closure div. of **Armstrong Cork Company.**

Robert C. Schroeder has been appointed mgr. of film and sheeting for **Union Carbide Plastics Co.,** New York. He will be responsible for mktg. of all flexible calendered vinyl film and sheeting products and will locate in the company's New York office. Mr. Schroeder has been with the company

2 IN 1... In this age of consumer convenience, give the housewife the makings of a meal in **one** package and you've given your product a sharp merchandising edge. This particular Sefton Fibre Can contains both pizza dough and sauce, has an easy pull-tape opening and protects the products right up to preparation. Another demonstration (among many) of CCA's informed ingenuity meeting the needs of all kinds of people through packaging. To **pack it—move it—sell it** is the business of CCA packaging.

CONTAINER CORPORATION OF AMERICA

Chicago 3 . . . and all key marketing areas

CCA

Folding Cartons, Shipping Containers, Sefton Fibre Cans, Molded Plastic Products, Point-of-Purchase Displays, Paperboard

since 1947. Prior to his present promotion, he was mkt. mgr. in the product-marketing section of the firm's sales department.

Woods

Frank J. Woods has been named director of sales for the General Chemical Div. of **Allied Chemical Corp.**, New York. With the div. for 22 years, Mr. Woods has been heavy chemical sales mgr. for the past 10. He was insecticide sales mgr. for seven years prior to that. During World War II, he served as supv. of industrial relations for a sub., General Chemical Defense Corp., in W. Va.

Don Gevirtz has been named gen. mgr. of all three Pee Cee Divs. of **Eureka Specialty Printing Co.**, with plants located in Los Angeles, St. Louis and Dumont, N. J. The company's Mark Andy plant in St. Louis is now known as **Pee Cee Tape & Label Co. Norman Hall** has been appointed Eastern operations mgr. **Robert Buckley** has been promoted to gen. sales mgr. and **Charles Richardson** has been named prodn. mgr. for the company.

Kerridge

Robert L. Kerridge has become director of mktg. of **Riegel Paper Corp.**, New York. Mr. Kerridge, a v.p., succeeds **Aaron P. Mitchell**, senior v.p., who is retiring after more than 36 years with the company. Mr. Mitchell will continue to serve Riegel as senior mktg. advisor. **Wilson W. Cross** has been promoted to the newly created post of product mgr. for the company's specialty products division.

William M. Cameron and **Charles B. Stauffacher** have been elected to the board of directors of **Continental Can Co.**, New York. Mr. Cameron is exec. v.p. of Concan's Glass & Plastics Operations Group. Mr. Stauffacher, who joined the company in 1952 as control officer, has held the post of exec. v.p. in charge of the Robert Gair Paper Products Group since 1958.

Dixon

Wesley M. Dixon, pres. of **Container Corp. of America**, Chicago, has also been named chairman and chief exec. of the company. In the latter post he succeeds the late **Walter P. Paepcke**. The corporation has appointed **Clinton Eastwood** as gen. sales mgr. of its corrugated shipping container div. **Raymond H. Van Saun** has succeeded Mr. Eastwood as gen. mgr. of the Oakland, Calif., shipping container plant.

Dr. Edmund H. Merz has been appointed director of the materials formulation and evaluation dept. of the General Packaging Research & Development

Plants & People [*Cont'd*]

Div. of **Continental Can Co.**, New York. He will supervise work on surface coatings, inks, adhesives, polymer formulation and processing. He will also handle analytical services for the six product divisions which make up the General Packaging Research & Development Div.

Gerald S. Haney has been named mgr. of sales services for the Hazel-Atlas Glass Div. of Concan. He will maintain his office in Wheeling, W. Va. Mr. Haney was formerly with the company's Flexible Packaging Division.


Erickson

Eric G. Erickson has been named v.p. and director of mfg. of the Molded Packaging Div. of **Diamond National Corp.**, New York. At the same time **John J. Penn** was promoted to asst. director of mfg., working with Mr. Erickson. Mr. Erickson was with **General Package Corp.** when it merged with Diamond National in 1955. His most recent post was that of gen. sales mgr. for egg packaging. Mr. Penn was formerly asst. chief engineer at the company's Stamford, Conn., engineering center.

Packaging Consultants, Inc., Washington, D. C., has opened a European office in Paris. **Pierre J. Louis** has been named mgr. At the same time, Packaging Consultants, with **Thomas P. Wharton** as mgr., has been appointed to represent the **French Packaging Institute** in the U. S. The purpose of this arrangement, according to both parties, is to promote mutual cooperation in the field of packaging between U. S. and European firms. Mr. Louis is director of the French Packaging Institute and also serves as secy. gen. of the **European Packaging Federation.** Mr. Wharton is pres. of the Washington, D. C., package engineering firm.


Moore

Edmund J. Moore has been appointed to the board of directors of the **Latchford Package Co.** At the same time, he was appointed v.p. in charge of sales, a newly created position. Mr. Moore joined the company in 1953 as a salesman. His most recent post was sales mgr. in the Los Angeles office. Latchford Package is a sub. of the **Latchford Glass Co.**

Frederick P. Bassett has been appointed advtg. mgr. of **Chicago Molded Products Corp.**, Chicago. He was formerly associated with Fitzgerald & Cooke Public Relations and The Portland Cement Association.

George W. Aljian, v.p. of **California & Hawaiian Sugar Refining Corp.**, San Francisco, has retired after 41 years service. He was purchasing agent from 1933 to 1945 and director of purchasing & packaging from 1945 to 1958. During his retirement he will continue as co-

PLEASE TURN THE PAGE

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Carriers of Eastex cylinder board courtesy Diamond National Corporation, Gardner Division

Wherever you find a quality can or bottle carrier, chances are it's made from Eastex cylinder board . . . and for good reason.

This exceptional board — the bleached sulphate, kraft back carrier grade — gives the converter *everything* he needs to produce a sales-winning carton. Specifically — a bright, white surface that brings a design to life . . . smooth and uniform for proper ink receptivity . . . and folding and bending properties that leave nothing to be desired.

And now, Eastex is producing a *coated* carrier grade . . . a *breakthrough* development in cylinder boards.

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Eastern Sales Office: 122 East 42nd Street, New York City, N. Y. — Telephone—OXford 7-2980
Western Sales Office: 1151 South Broadway, Los Angeles, California — Telephone—RIchmond 7-6126
Western Sales Office: 210 California Street, San Francisco, California — Telephone—SUtter 1-6123
Agent, Perkins-Goodwin, New York (Murrayhill 8-4900)—Chicago (Franklin 2-1395)—Lufkin (Neptune 4-5561)

ordinator of the By-Products Project of the **Hawaiian Sugar Planters' Assn. of Honolulu**, studying the potential commercialization of the use of sugarcane bagasse for producing pulp and paper.

Wallace K. Graves, John L. Tower and **George H. Rand** have been elected v.p.'s of **International Paper Co.**, New York. Mr. Graves, who will serve as v.p. in charge of the sale of primary grades of paper and paperboard, joined the com-

Graves *Tower* *Rand*

pany in 1930. In addition to his current duties as director of public relations, Mr. Tower will now supervise the company's advertising and sales promotion depts. He has been with the company since 1950. Mr. Rand, whose appointment as mgr. of mfg. of the company's Northern Div. was announced earlier this year, will continue in that capacity. He has been with International Paper since 1930.

After 37 years with the company, the last 17 as pres., **J. S. Miller** is retiring from active duty with **The New Haven Board & Carton Co.**, New Haven, Conn. **William W. Fitzhugh, Jr.**, has been elected to succeed Mr. Miller. He was formerly exec. v.p. of the company. The new chief exec., before his association with the New Haven company, was exec. v.p. of **William W. Fitzhugh, Inc.**, where he had wide experience in the conversion of paper and paperboard products. The folding box, label and corrugated container divs. of the Fitzhugh Co. have been combined with the New Haven operations.

William E. Caldwell has been appointed senior v.p. of the **Cornell Paperboard Products Co.**, Milwaukee, div. of **St. Regis Paper Co.** He succeeds **Arthur Miller**, who is retiring this summer. Mr. Caldwell, currently resident mgr. of the St. Regis mill at Pensacola, Fla., will also act as gen. mgr. of Cornell operations at Milwaukee. **Bart A. Gaffney** has been named gen. sales mgr. of folding cartons for Cornell Paperboard Products Co. He will also handle sales for Cornell's sub., **Carton Craftsmen, Inc.**, of Chicago. Prior to joining the company, Mr. Gaffney was divisional v.p. of sales for the New Haven Board & Carton Co.

Caldwell

Philip B. Duffy and **John A. McDermott** have been elected v.p.'s of St. Regis. Mr. Duffy, who is exec. v.p. of the **St. Regis Container Div.**, has been named v.p. of corrugated containers. Mr. McDermott, gen. mgr. of all pulp and

Plants & People [*Cont'd*]

paper manufacturing, has been named v.p. in charge of pulp and paper manufacturing. **Benton R. Cancell**, exec. v.p. in charge of St. Regis operations, has been elected a director of the company. **W. Irving Osborne, Jr.**, also elected a director, is chairman of the board of St. Regis' Cornell Paperboard Products Co.

Robert R. Howarth has been elected to succeed his deceased father, **Charles W. Howarth**, as pres. of **Columbia Box Board Mills, Inc.**, Chatham, N. Y. Mr. Howarth, who has been with the company since 1945, was appointed a v.p. in 1952 and served as exec. v.p. from 1954 until his current appointment. **Arthur J. Dimick** has been named exec. v.p. and appointed to the board of directors. Mr. Dimick joined Columbia as sales mgr. in 1958. He was formerly associated with the West Virginia Pulp & Paper Company.

Howarth *Dimick*

M. C. Wakefield, Jr., has been appointed sales mgr. of the Polyco-Monomer Dept. of **The Borden Chemical Co.**, a div. of **The Borden Co.**, New York. He is succeeded as Mid-west sales mgr. for the dept. by **William Edward Driscoll**, former sales rep. in the New England area. Mr. Wakefield will make his headquarters in the New York office. Mr. Driscoll will locate in Elmhurst, Ill.

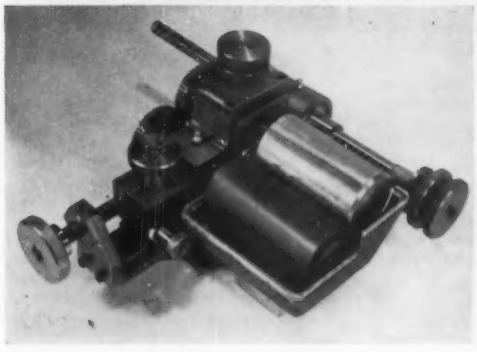
Robert A. DeWolfe has been appointed product mgr., a newly created position in the National Adhesives Div. of **National Starch & Chemical Corp.**, New York. Mr. DeWolfe has been serving as mgr. of the company's Pacific Coast Div. since 1956. He will headquarter in New York. **Lawrence J. Horan** has been named mgr. of the West Coast Div. He will locate in San Francisco. The board of directors has elected **Sidney F. Thune** as a member. Mr. Thune is v.p. in charge of adhesive and resin sales for the company.

DeWolfe *Horan*

R. G. Beverly has been appointed sales mgr. of western operations of the Canning Machinery Div. of **Food Machinery & Chemical Corp.**, San Jose, Calif. Mr. Beverly, who had been asst. mgr. for the past two years, succeeds the late **Frank J. Fay.**

Joe D. Cox has joined **Southwest Forest Industries, Inc.**, Phoenix, Ariz., as v.p. and mgr. of the firm's newly formed container div. His duties will include direction of Southwest's new corrugated container plant in Glendale, Ariz. Mr. Cox was formerly sales mgr. for the

FLEXOGRAPHIC EDGE PRINTER



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Combination SLITTER and DOCTOR MACHINE

This versatile, low-cost Double-Arbor Doctor Machine will help you break costly slitting "bottlenecks". Precision-engineered and ruggedly built, it *works two ways to* speed production slitting!

1. Performs all trimming, rewinding, and other salvage operations, converting reject rolls into saleable stock.
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- up to 30" wide roll, 16" diameter
- automatic web guide
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- speeds up to 1000 f.p.m.

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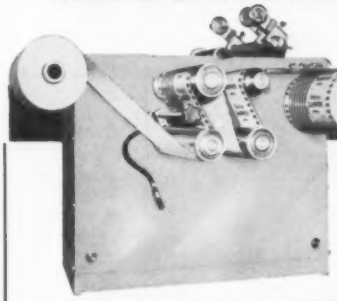
DOCTOR MACHINE



- Handles rolls up to 30" wide, 24" diameter, 250 lb. weight
- Automatic web guide
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Quick, economical way to convert defective rolls into saleable stock! This compact Stanford Doctor Machine easily corrects soft, telescoped, uneven, or out-of-register rolls without tying up your production equipment. Saves many times its own cost in material and labor.

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Manufacturers of Slitters, Web Guides and Rewinding and Constant Tension Equipment

Plants & People [*Cont'd*]

Growers Container Div. of St. Regis Paper Co. in Fullerton, Calif. He has also been associated with Milprint.

C. Lee Hill has been appointed product promotion mgr. for the bag sales div. of **Union Bag-Camp Paper Corp.** Before joining the organization in 1959, Mr. Hill was director of mdsng. for the Gardner Div. of Diamond National.

William A. Damerel has been appointed director of purchases for the **Package Machinery Co.** of East Longmeadow, Mass. He was formerly associated with the Whitney Chain Co. of Hartford, Conn., where he was on the sales staff before becoming asst. to the pres. He later was given charge of setting up a newly activated product line for the company.

Robert J. Siebert has been elected a v.p. of **Crown Cork & Seal Co.**, Philadelphia. Mr. Siebert, who will headquarter at the company's San Francisco plant, will direct all manufacturing and sales activities in the Western region. He has been with Crown since 1941.

American Cellular Corp. is a new firm now in operation in Miami, Fla. Established by **Joseph L. Greenwell**, pres., the company does encapsulation and contour packaging of electronic equipment and manufactures products and formulations of polyurethane and polystyrene foams. Equipment includes blow molders said to produce containers or toys at speeds of 1,500 units per hour. A branch plant is under construction at Leonardtown, Md.

Clyde B. Hutchinson has been elected senior v.p. in charge of sales for **Soabar Co.**, Philadelphia, manufacturer of ticket and label-marking equipment and supplies. Mr. Hutchinson has been with the company since 1930.

Edgar G. Morrison has been appointed to the post of director of corporate product planning of **Miehle-Goss-Dexter, Inc.**, Chicago. Prior to his new assignment, Mr. Morrison was sales mgr. of the organization's Goss Co. division.

H. E. Whitaker is now chairman of the board of **The Mead Corp.**, Dayton, O. **D. F. Morris** has been elected pres., and **George H. Pringle**, exec. v.p.

Joseph G. Donohoo, gen. sales mgr., **Mead Containers**, Cincinnati, a div. of The Mead Corp., has been elected a director of **Evert Container Corp.** of Milwaukee, an affiliate of Mead Containers.

Michigan Carton Co., Battle Creek, Mich., has formed a new div. to promote and sell its new line of pictorial egg cartons. The Egg-Cel Div. also will lease and install machinery for setting up and sealing the folding egg cartons. **Harold G. Hanselman** is mgr. of the division.

Owens-Illinois Glass Co., Toledo, is planning to open two new plants, in Chicago and Cincinnati, for the manufacture of semi-rigid plastic bottles for liquid detergents and other household products. The new facilities will bring to five the number of new plastic container plants O-I has established since the introduction of the high-density polyethylene bottle two years ago.

Dynas Aktiebolag of Sweden is now in full-scale production of Clupak extensible paper. Under license from **Clupak, Inc.**, New York, Dynas is turning out the stretchable kraft at its mill in Vaja, Sweden, and shipments are already being made to the United Kingdom and other European countries.

Three stainless steel pressure-filling lines, one of which is high-speed rotary, and an improved propellent storage and blending system have been installed at the new aerosol plant of **Capitol Packaging Co.**, Melrose Park, Ill. The facility can load more than 25 million pressurized packages per year, according to the company.

Riegel Paper Corp., New York, is building a new $2-million plant for its Quality Lithographing Div. in Atlanta, Ga. Completion is expected later this year.

As part of its 1960 expansion program, **Paramount Paper Products Co.**, Omaha, Neb., has established a branch plant and warehouse in the Boston, Mass., area. **William McLaughlin** will supervise operations at the new facility.

Hobbs Mfg. Co., Worcester, Mass., has established a West Coast office to handle its web winding equipment, die presses, hand and power shears, slitters and rewinders. **Kenneth Clay** is in charge. Address is Box 2302, Fullerton, Calif.

Tronomatic Machine Mfg. Corp., package- and plastic-forming machinery manufacturer, has moved to 25 Bruckner Blvd., New York 54.

Owens-Illinois Glass Co., Toledo, has established a sub. in Geneva, Switzerland. **Max C. Powell** is v.p. and gen. mgr. of the new sub., to be known as **Owens-Illinois International, S. A. R. Harvard Olson** has been assigned to the Geneva office as technical director.

Atlantic-Vulcan Steel Containers, member of the **Vulcan-Associated Container Companies**, has completed construction of a new plant at its Peabody, Mass., headquarters. The new facility will make metal shipping containers.

Weston Paper & Mfg. Co. has moved its board sales office from Dayton, O., to Terre Haute, Ind. New mail address is Box 238, Terre Haute.

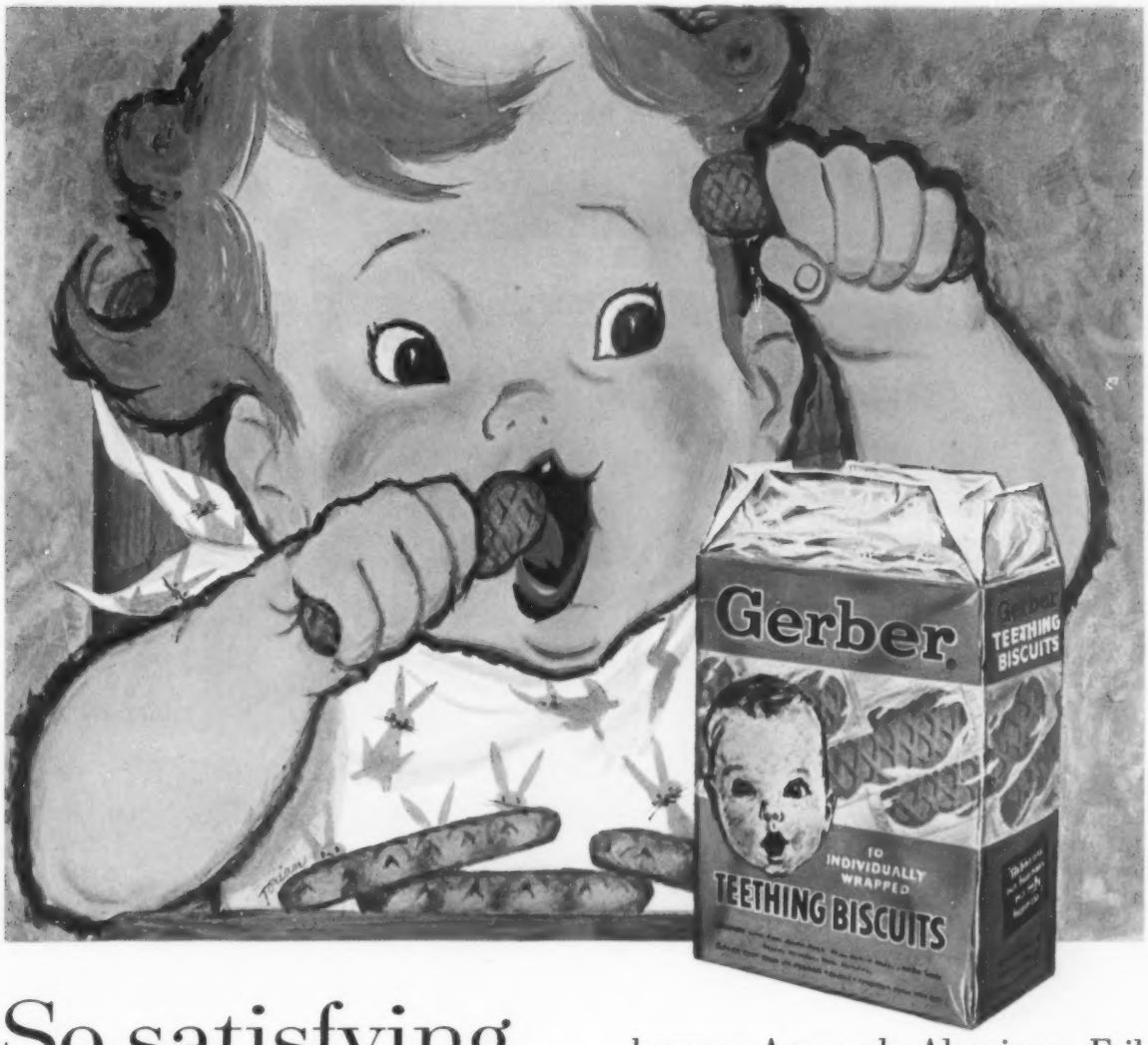
Flexicraft Industries, Inc., converter of flexible packaging materials, has moved its offices and manufacturing facilities to 3670 Dyre Ave., New York 66.

Allied Chemical Corp., New York, has started work on a major expansion project at its General Chemical Div. location near Morristown, N. J. The construction is expected to more than double current laboratory facilities.

Production was initiated last May in Phoenix, Arizona, at the fifth new ship-

[*Continued on page 182*]

Another FOIL packaging success with ANACONDA ALUMINUM . . .



So satisfying . . . because Anaconda Aluminum Foil protects the firmness of Gerber Teething Biscuits

When baby's gums are tender, mother reaches for Gerber Teething Biscuits because she knows they will be dry and hard—a satisfying combination. Also, to her, the Gerber name on the package is ample assurance of product quality. This reputation is invaluable; so **Gerber Products Company** further protects it with foil packaging by **Marathon,** a Division of American Can Company, Menasha, Wisconsin.

Key to this protection is a package overwrap constructed by Marathon using **Anaconda Aluminum** foil. The foil, a positive moisture barrier, helps seal out moisture to maintain the proper biscuit firmness. And the gleaming foil overwrap, designed by **Raymond Hoagland and Associates** of Chicago, helps hurrying housewives identify the Gerber package on crowded store shelves.

To learn more about foil packaging that both *protects and sells* your product, contact your Anaconda Aluminum representative. Or write Dept. MF-7, Louisville 1, Ky.

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PROTECT THE NATURAL SALESMANSHIP WITH NEW MONSANTO POLYETHYLENE RESINS

Strikingly handsome, yet tear-resistant show cases for your product are now being produced from two new high clarity Polyethylene resins—Monsanto Polyethylene 31 (intermediate slip) and Monsanto Polyethylene 32 (high slip). They are extruded as films with a broad heat sealing range that eases fabrication, reduces scrap, speeds conversion. Ink reception is excellent, printability sharp and clear. The introduction of these new resins is another demonstration of continuing Monsanto leadership in the research and development of plastics for packaging.

For a list of manufacturers who extrude this film made from Monsanto Polyethylene 31 and 32 and a new Monsanto report on plastics packaging, write to Monsanto Chemical Company, Plastics Division, Room 781, Springfield 2, Massachusetts.

Monsanto Polyethylene, Lustrex® Styrene, and Vuepak® Cellulose Acetate are formed or fabricated by leading manufacturers into persuasive new packages that are today aiding the success of products in many markets.

Monsanto

MONSANTO ACTIVATOR IN **PLASTICS**

Plants & People

[*Continued from page 178*]

ping container plant constructed by **Fibreboard Paper Products Corp.**, San Francisco. A sixth was opened in June in Honolulu, Hawaii.

General sales offices and New York-New England sales offices for film operations of the Packaging Div. of **Olin Mathieson Chemical Corp.** have transferred to larger quarters at 460 Park Avenue, New York.

Executive and manufacturing facilities of **John Dusenbery Co.**, are now located at 379 Allwood Rd., Clifton, N. J. The firm makes converting equipment.

Consultants for Product Design have removed to 1850 Westwood Blvd., Los Angeles 25. The firm will continue to do work in product planning and development, corporate identity programs and product designing.

Ideal Decorating Corp. has moved to new facilities at 99-09 Foster Ave., Brooklyn.

Roto Cylinders, Inc., has moved to a new location at Palmyra, N. J. The firm does engraving of rotogravure cylinders.

Promotions

Anthony J. Scalora: to chief of plastics research and development, gen. research dept., **Owens-Illinois Glass Co.**, Toledo. **Dr. Carl A. Johnson:** to chief of forest products research.

Tom G. Rogers: to sales mgr., molded packaging, Cincinnati, **Diamond National Corp.**, New York.

C. C. Smith: to district sales mgr., Cleveland area, Bag Div., **St. Regis Paper Co.**, New York.

J. K. Limbert: to v.p., egg pkg. sales, **Packaging Corp. of America**, Evanston, Ill.

Vernon W. Schroeder: to development associate, development dept., Bound Brook, N. J., **Union Carbide Plastics Co.**, New York.

Melvin L. Beck: to sales mgr., northeast district, **Oxford Paper Co.**, New York. **Hugh Morison:** to sales mgr., Atlantic district. **Alfred N. Rubano:** to sales mgr., New York Metropolitan district.

William L. Kelly: to sales mgr., southern district, bag operations, Packaging Div., **Olin Mathieson Chemical Corp.**, New York.

P. F. Finley: to Southeastern sales mgr., **Kraft Bag Corp.**, New York, sub. of **Gilman Paper Co.** Mr. Finley will be responsible for sales in Maryland, Virginia, North and South Carolina, Georgia, Florida, Alabama and Eastern Tennessee.

F. Henry Savage: to board of directors, **International Paper Co.**, New York. Mr. Savage is the company's v.p. of

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The Answer Man! Got a question about packaging? Your ***Gardner Sales Representative*** has the answer—resourceful, sales-powered Persuasive Packaging.

New Whether Predictor! To buy, or not to buy? ***Gardner Market Research*** finds the answers and the reasons why—to guide the development of your package.

Shape of Things to Come! In ***Gardner Structural Design*** market-oriented ideas achieve form and function. Creativity is shaped by utilitarian and sales factors.

What does an idea look like? Guided by research, ***Gardner Graphic Design*** applies color, type, and imagination to produce a design that changes lookers into buyers.

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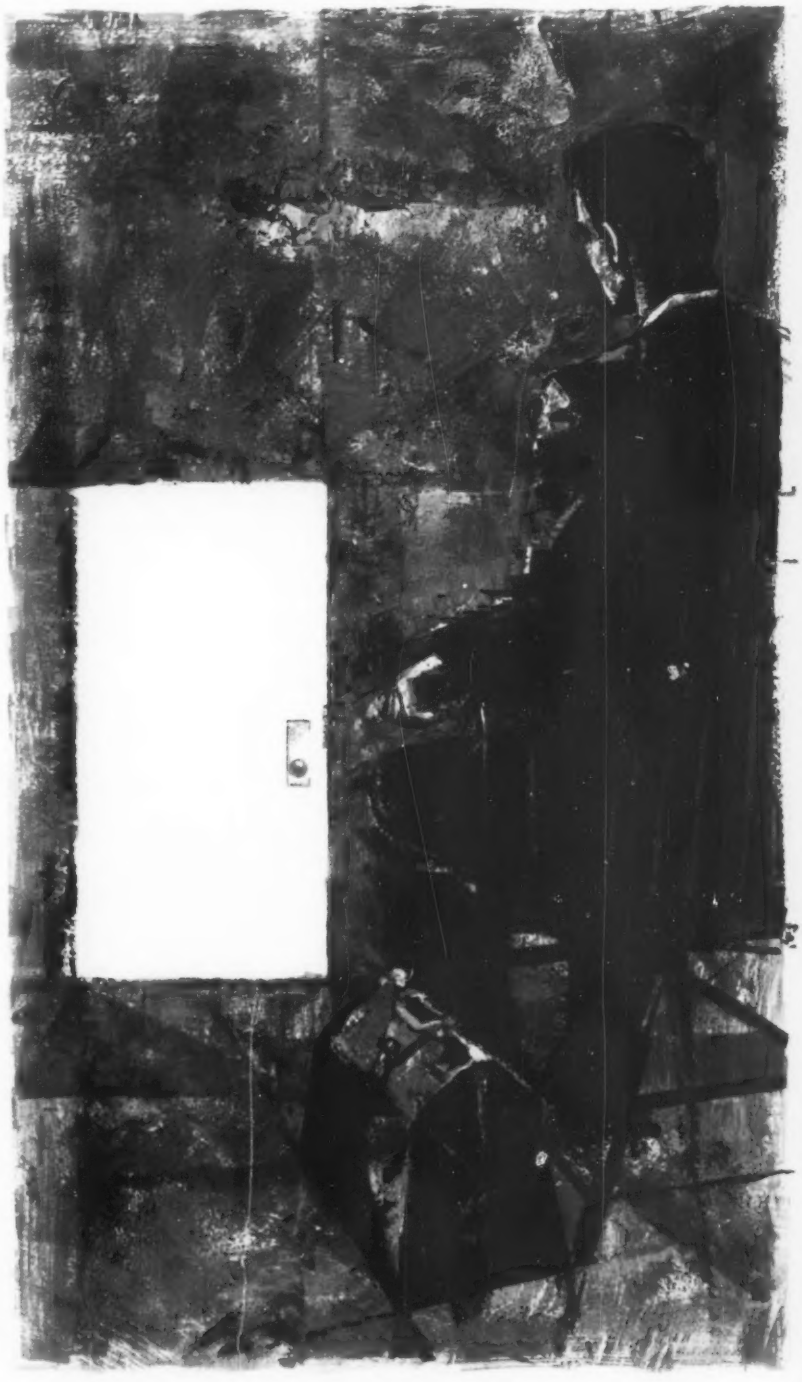
SALESMAN WANTED FOR AN OPPORTUNITY! The Gardner Answer Man—his brief case contains the answers to your packaging problems—**Persuasive Packaging!** People with packaging problems want answers. And the best answer to a slow-moving product is a fast-moving Gardner Representative with a fresh, new packaging idea—one that sells! ¶ Gardner Persuasive Packaging is just that—a new market-oriented packaging approach to sales. Strong, imaginative graphic and structural package design guided by the recommendations of Market Research and thoroughly checked-out by Package Testing. There are even Machine Application engineers to adapt your production machinery if you need them. ¶ All in all, the most resourceful, completely coordinated packaging program in the industry. Skeptical? Call us. Give us the opportunity to **show** you.



DIAMOND NATIONAL
THE GARDNER DIVISION
MIDDLETOWN, OHIO

PRIZE-WINNING PERSUASIVE PACKAGES

Diamond National took top honors in the 1960 Folding Carton Competition with a total of 17 awards. Of this total, 11 were captured by Gardner Persuasive Packages. Not only that, but Persuasive Packaging took awards in all 4 major judging classifications ■ 3 awards in Technical Superiority of Printing (including the top awards in lithography and gravure printing) ■ 2 awards in Superiority of Construction ■ 2 awards in New Volume Use ■ 4 awards in General Merchandising Superiority (including a top award). ¶ In all, 3 first awards and 8 merit awards —7 of which were produced on Gardner's exciting new Diamond-Glo board. ¶ How about your packaging? Are you enjoying the sales benefits of this kind of creative packaging and printing? You can! Call us, or write for a folder containing details of all these prize-winning packages—packages that sell!

DIAMOND NATIONAL
THE GARDNER DIVISION
MIDDLETOWN, OHIO

Plants & People [*Cont'd*]

mktg. He succeeds **R. A. L. Ellis**, resigned. **Donald B. Pooley**: to West Coast mgr., corrugated shipping container and multiwall bag sales. **R. R. Worthington**: to asst. gen. mgr., Bagpak Div. He is succeeded as divisional sales mgr. by **R. A. Gair, Jr. C. H. Crain** has replaced Mr. Gair as West Coast district sales manager.

Irving Fischer: to district sales mgr., New York, **National Starch & Chemical Corp.**, New York.

Thomas E. Holdridge: to eastern region sales mgr., Garden City, N. Y., Narmco Materials Div., **Narmco Industries, Inc.**, Costa Mesa, Calif.

Marvin S. Meirowitz: to field sales mgr., "Genetron" refrigerants and aerosol propellants, General Chemical Div., **Allied Chemical Corp.**, New York.

Carlton W. Oberg: to Cleveland district sales mgr., Container Div., **Jones & Laughlin Steel Corp.**, Pittsburgh. He succeeds **Joseph G. Dunneback**, retiring after 42 years of service.

Charles H. Marquardt: to district mgr., metal can sales, Chicago, **Continental Can Co.**, New York. He succeeds **Donald L. Weir**, who has transferred to the Hazel-Atlas Glass Div. of the Coast.

William F. Franke: to district mgr., New York office, **Aluminum Foils, Inc.**, Jackson, Tenn. He is succeeded as mgr. of the company's Cleveland, O., office by **Jack Hobbs**.

Appointments

Stanley H. Wells: West Coast district mgr., **Triangle Package Machinery Co.**, Chicago.

Juel W. Stern: to projects director, **Warren Furlonge Associates, Inc.**, corporate designers, New York. Mrs. Stern will be concerned with client service and promotion and will coordinate design programs with foreign affiliates.

Lee D. Dubin: to mgr. of machinery sales, Mid-Atlantic region, **Crown Cork & Seal Co.**, Philadelphia. **Thomas J. Hughes**: to district mgr., New York.

Obituaries

Herbert W. Suter, Jr., 50, v.p. of mktg. of **The Champion Paper & Fibre Co.**, Hamilton, O., died May 8. Mr. Suter had been a sales exec. with Champion since 1937 when he joined the firm as asst. mgr. of its Cleveland office. He was widely known in the paper industry and served with many industry groups.

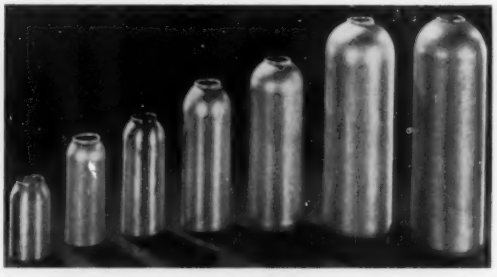
Colter Rule, retired mgr. of **The Champion Paper & Fibre Co.**'s Cincinnati district sales office, died April 27. He was 79. Mr. Rule, who joined Champion in 1929, had held the Cincinnati post for 30 years until his retirement last year. He had been associated with the paper making industry during his entire business career.

Equipment & Materials

[*Continued from page 62*]
one-mil polyethylene film covered by a conventional waxed-paper overwrap. This combination, says the supplier, enables bakers to realize the economy and merchandising advantages of waxed paper along with the additional product protection of polyethylene. According to the supplier, independent tests prove that bread loaves packaged in the combination of materials lose less than 1% of their moisture after seven days under standard test conditions (72 deg. F. at 50% relative humidity). The inner wrap, called Crown Poly, is said to feed through existing wrapping machines without the need for special attachments. *Crown Zellerbach Corp., Western-Waxide Div., San Leandro, Calif.*

Impact-extruded aluminum aerosol cans

Impact Container Corp. has been named exclusive North America distributor for the Bombrini-Parodi-Delfino line of seamless, impact-extruded aluminum aerosol cans. Illustrated here, the containers are offered in capacities of 3, 5, 7, 12, 18, 35 and 37 fl. oz. Design of the containers, says



the supplier, makes possible high-pressure formulations that permit the packaging of more product for each size container. The cans are claimed to exceed minimum Interstate Commerce Commission standards and to have minimum bursting pressure of 300 p.s.i. Light in weight, the rustproof containers feature a self-reinforcing curled lip opening that reportedly offers easy, effective sealing with standard 1-in.-diameter aerosol valve assemblies. They are available with exterior color coat, interior epoxy coat and in four-color lithographic labeling. *Impact Container Corp., 135 Oakland Pl., Buffalo 22.*

Siftproof container offered on license

John T. Raisin Corp. reports that it is now offering package-supplier companies, under a licensing agreement, rights to the manufacture of "Pantray" pre-cut and scored foil-laminated carton and tray blanks. This type of container, which also incorporates a thermoplastic coating for corner sealing under heat and pressure, is claimed to be liquid-tight and siftproof (see p. 134 this issue). Suggested applications are for the packaging of baked goods, frozen foods, powdery products, etc. Also available from the supplier is automatic machinery for setting up the container from blanks, at reported speeds up to 42 per minute. *John T. Raisin Corp., 1575 Bayshore Blvd., San Francisco 24.*

Metalized, saran-coated cellophane

Claimed to combine easy sealability, exceptional product protection and decorative brilliance is a new laminated overwrap from Continental Can's Flexible Packaging Div. The material, called Metacel Bencoseal, is saran-coated cellophane which is reverse printed and then metalized for greater reflectivity. The resultant 3-mil film is said to exhibit the characteristics of foil laminations at less bulk and cost, suggesting economy and long production runs. According to the supplier, the saran coating assures a high degree of resistance to water vapor and abrasion, while the metalized coating adds the property of brilliance. Among the suggested applications of the material are for the packaging of oily products (such as margarine and cosmetics) and such items as dry milk solids. Supplied as roll stock, the material reportedly can be handled on conventional overwrap machinery. *Continental Can Co., Flexible Packaging Div., Mt. Vernon, O.*

Coating for glass containers

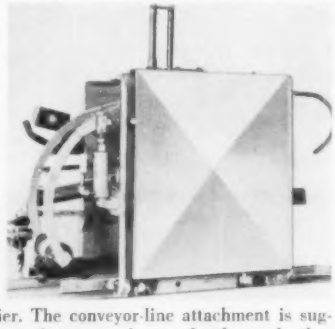
Ball Bros. Co. reports the availability of an all-purpose coating for glass containers. Called AP (for "Abrasion Protection"), the coating is claimed to have Food & Drug Administration approval. Durability and protection are among the features cited for the coating. According to the supplier, the coating material has been subjected to extensive tests. During these tests, coated jars were subjected to retort temperatures of 240 deg. F. for 40 min. without adverse effect on the coating's protective qualities, says the company. The coating reportedly can be used on bottles for a wide variety of liquid products, including beer and liquor. *Ball Bros. Co., Inc., Muncie, Ind.*

Vertical case-sealing unit

A vertical compression case-sealing machine, designed to conserve floor space and to elevate shipping cases to a higher level (such as a second-floor storage room) has been developed by Emhart Mfg. The new unit, which is called the Standard-Knapp Type SK677 Vertiseal, handles shipping cases ranging in size from 10 in. long by 5½ in. wide by 5 in. high to 20½ in. long by 14½ in. wide by 15 in. high. The machine is designed for use in conjunction with conventional Standard-Knapp gluers. It is supplied in heights up to 18 ft. (in 2-ft. increments). Minimum discharge elevation is 8 ft. *Emhart Mfg. Co., Portland Div., Portland, Conn.*

Carton flap-closer and inverter

Designed to speed up handling operations is Lathrop Paulson's new Carton Turn-Over, a machine that automatically closes shipping-carton flaps and turns cartons over as they pass along a conveyor. The device reportedly can be installed on any conveyor line. Fully automatic, it will handle any size carton from 8 by 8 by 3½ in. to 24 by 18 by 16 in., in a weight range of 3 to 60 lbs. It operates at speeds of up to 10 cartons per minute, says the supplier. The conveyor-line attachment is suggested for use by manufacturers of cans, bottles and other rigid containers that are shipped in unsealed, flapped cartons which must be re-used to ship the finished products. Additional information on this unit is available from *Lathrop Paulson Co., 2459 W. 48 St., Chicago 32.*



Four-side case marking

Automatic imprinting of product information on all four sides of a shipping container is offered by a new machinery combination developed by Gottscho. Said to be more eco-

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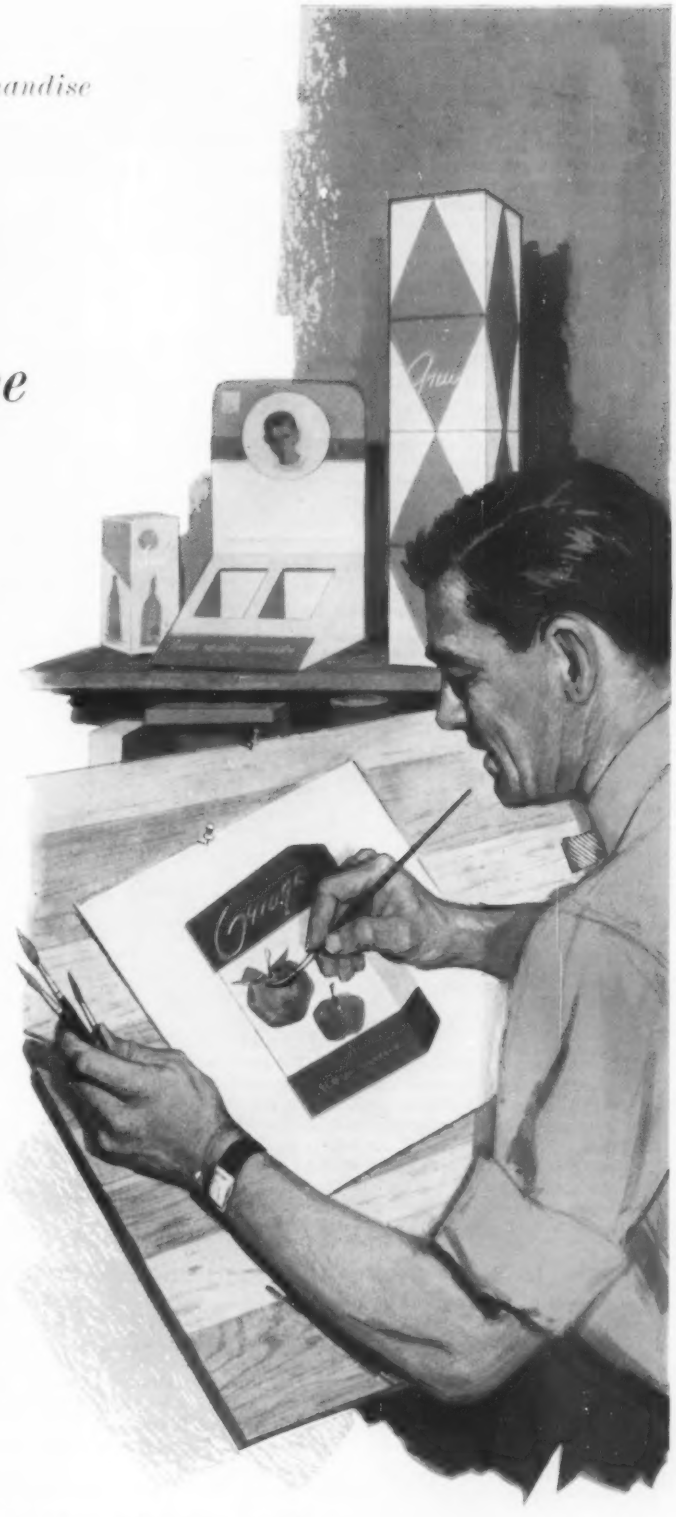

This man and many others like him on Packaging Corporation of America's technical staff devote themselves to *selling your products.* Cooperating with product development and production engineers engaged in constant improvements of packaging materials and methods of all types, they form a *creative team.* Under their skilled hands the container or carton is transformed into a colorful, appealing creation that works for you in transit, promotes its contents from shelves and counters, invites buyers to reach for it. Experimenting with color arrangements, with special inks and a variety of printing processes . . . theirs is a continuing quest for all the ways in which artful package exteriors can sell harder. Bringing this ingenuity to the design of your packaging is but one of countless ways in which Packaging Corporation of America's concept of Planned Packaging, implemented through integrated national facilities, produces better packaging . . . more sales. Whether your requirements are large or small, regional or national, we welcome the opportunity to help you.

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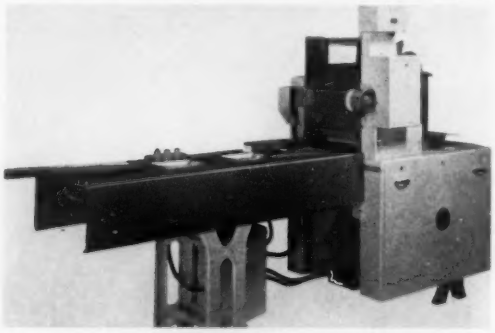
nomical than previous methods of imprinting all sides of a case in a single pass, the combination includes a belt conveyor, one or more turners, adjustable side guides and a set of friction-powered Rolacoder imprinting attachments. Five different set-ups are available, to suit individual requirements. Variations in arrangement of turners and guides permits delivery of marked shipping cases with either their side or their ends leading. For further information, contact *Adolph Gottscho, Inc., Hillside, N.J.*

Polyethylene drum faucet

Multi-Meter offers the Flo-King Jumbo drum faucet, made of polyethylene. Designed for insertion into 2-in. drum openings, the new faucet reportedly will empty liquid from a 55-gal. drum in about 2 min. at full flow. It is usable with viscous or free-flowing liquids. Vertical ribs inside the spout are reported to eliminate product dribble. A polyethylene spout closure also is supplied to eliminate residual drip. According to the supplier, the plastic faucet will not stress crack or break and will not react with chemical products stored in drums. The faucet is claimed to be capable of withstanding five times the pressure exerted in a 55-gal. drum. *Multi-Meter Corp., Toledo 12, O.*

New unit applies closures to foil trays

A heavy-duty machine for top-sheeting aluminum-foil trays with roll-fed foil has been developed by Scandia. The Tray-Topper is reported to operate at speeds of 40 to 80 trays per minute. It offers substantial savings both in packaging



material and in packaging labor, says the supplier. In automatic operation, the new unit feeds foil continuously from a roll, registers a printed design, cuts the sheet to size, positions it on the tray and folds under the tray crimps three of the four sides of the foil cover. The fourth fold-under is done manually when trays are removed from the straight-line machine. The unit is designed for use by frozen-food processors and other users of foil tray packages. *Scandia Packaging Machinery Co., North Arlington, N.J.*

Filler for foamy liquids

Suggested for use by packagers of foamy liquids is Packer Machinery's Model SFRT gravity filler for 1-gal. and 5-gal. containers. Claimed to offer foamless and dripless filling, the new unit is pneumatically operated, with air-valve control. It is equipped with six stainless-steel bottom-up filling nozzles. Other features of the filler are a roller conveyor, stainless-steel contact parts and a liquid-control tank. *Packer Machinery Corp., 109 14 St., Brooklyn 15.*

Laboratory hot-melt coater

Developed by Haida Engineering for laboratory use is the Model LHC-90 hot-melt coating and laminating machine. Said to operate at speeds between 33 and 100 ft. per minute, the unit will accommodate a mill roll up to 10 in. wide and 20 in. in diameter. The web travels over an adjustable tension bar toward the coating roller. Contact of web with coating roller can be controlled by an adjustable pressure roller. Amount of coating compound applied to the heated coating roller can be regulated by an adjustable doctor blade. Available attachments for the machine include: a solvent and aqueous-coating drying unit, a wet-waxing unit, a rotogravure and pressure-roll coating unit, a precision coating unit, a second and third coating unit, and a reverse-coating roller. *Haida Engineering Co., 34-11 Vernon Blvd., Long Island City 6, N.Y.*

Seam tester for metal cans

Hi-Speed Checkweigher Co. offers the Hi-Speed universal can-seam tester, a self-contained unit that opens metal cans and inspects their side seams. The electric - operated machine is claimed to be faster, more accurate and more economical than the hand-opening method. According to the supplier, it opens and inspects up to six cans per minute.

In operation, the device first removes the can lid with a rotary saw. Then it cross cuts the can seam for checking of seam engagement and strips the can-cover hook from the body hook for measurement and inspection of sealing performance. The compact testing unit is 28 in. long, 25 in. wide and 13 in. high. It weighs about 100 lbs. *Hi-Speed Checkweigher Co., Ithaca, N.Y.*

Clear vinyl extrusion compound

Borden Chemical's VC-8005 is a clear, rigid vinyl compound which can be extruded into film or sheet form for various packaging applications, including vacuum forming. Among the characteristics cited for the material are exceptional clarity, strength, and good heat and light stability. Additional information on the material can be obtained on request from *Borden Chemical Co., Div. The Borden Co., 350 Madison Ave., New York 17.*

Re-usable polyethylene shipper

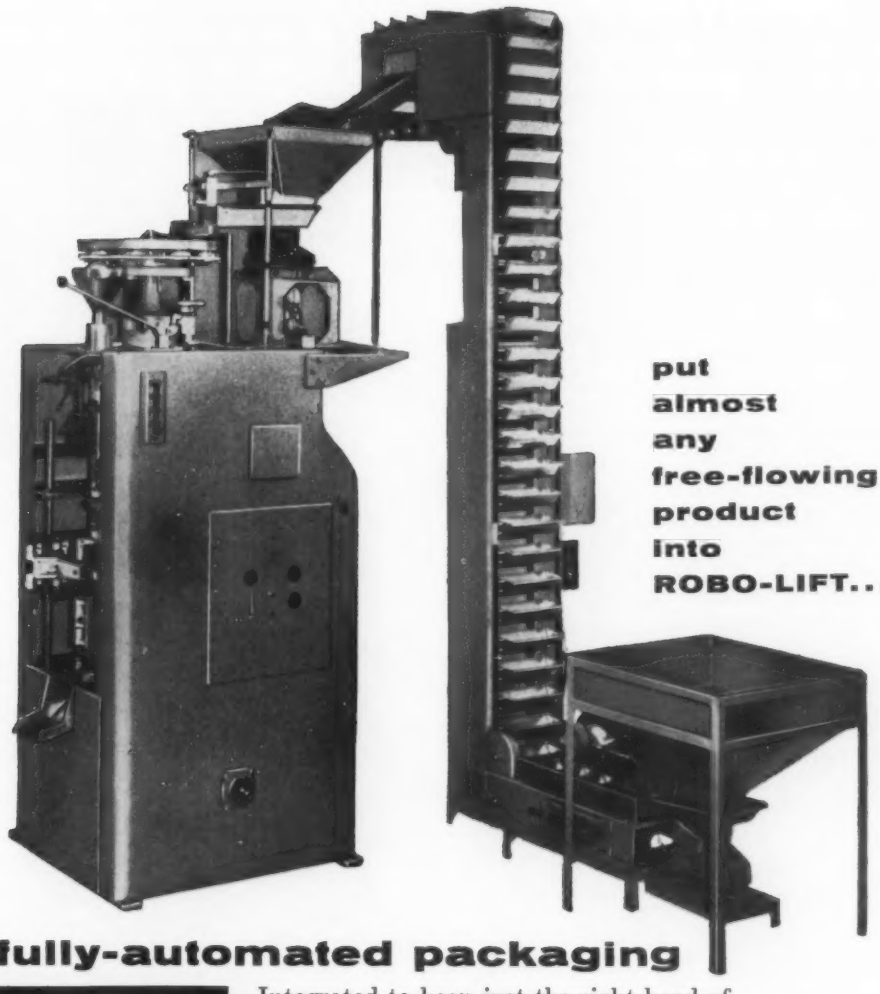
Vacuum formed from linear polyethylene, a re-usable container for the shipping, storage and handling of such items as spare parts is now available from Thermo-Plastic Products. The new rounded-corner container is hinged and has recesses for strapping. It can also be supplied with metal snap-fastening locks. Among the advantages cited for the container are: good protection; economy; resistance to weathering and aging; imperviousness to the entry of water, dirt and other foreign matter; stackability; light weight and durability. Reportedly developed to airline requirements, the plastic container is offered in 16 sizes. For more information on the container, contact the supplier. *Thermo-Plastic Products Co., San Carlos, Calif.*

New blow-molding machinery

Acme Machinery & Mfg., distributor of Trico blow-molding machines, introduces the Model 1216A. Available with two or four nozzles, the unit has a platen size of 16 by 12 in., with 10 in. maximum opening between platens. It reportedly can be adapted to any extruder. Among the cited features of the blow-molding unit are a separate automatic timing control to each platen opening and a separate automatic timing control on air to nozzles. Dry-cycle time is approximately two seconds. For further details, contact *Acme Machinery & Mfg. Co., Yonkers, N.Y.*

Cohesive-adhesive carton-flap sealing

The "cohesive-adhesive" flap-sealing principle has been adapted to folding cartons by Field Paper Box. The company calls its pressure-sensitive-adhesive method of flap sealing "Field-Stik." On both top and bottom carton closures, the adhesive is applied to the interior surface of the



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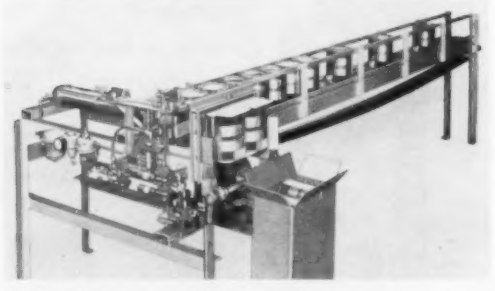
outer longitudinal flap and to the extruder surface of the inner longitudinal flap. When the flaps are brought together in carton set-up, the adhesive-treated surfaces cling tightly to each other. However, says the company, the adhesive will not stick to any surface but one similarly treated, so cartons can be stacked safely and handled without special care. Advantages of this sealing method, the supplier points out, are that it cuts production costs and time by eliminating the need for glue, staples or sealing machinery. *Field Paper Box Co., 1740 N. Pulaski Rd., Chicago 39.*

End-open caser for large-size cans

New from FMC is a medium-speed end-open caser for single-tier loading of large-size cans. Designated the Model 10 Non-Shock End-Open Caser, the unit reportedly can



fill 10 end-open cases of No. 10 or No. 12 cans per minute. Cans come onto the machine's conveyor in upright position. The conveyor takes them to a loading station, where predetermined loading pattern is formed automatically. The cans then are discharged by pusher plate into an empty shipping case manually positioned over the loading funnel. According to the supplier, mechanical controls prevent can discharge from the loading chamber unless the loading pattern is complete and the shipping case is properly positioned. Non-shock characteristics of the unit, says the company, eliminate such damage as dented can bodies and split seams. *Food Machinery & Chemical Corp., Canning Machinery Div., San José, Calif.*

Tester rejects imperfect containers

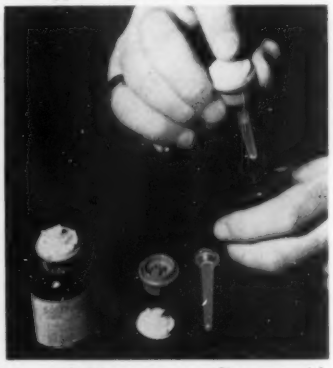
A new container-testing device that prevents filling of imperfect glass, metal or plastic containers is available from MRM. The attachment is mounted on the intake side of the conveyor. A vacuum member grasps and lifts containers as they pass along the conveyor. Perfect bottles are raised over a gap in the conveyor and discharged on the other side for entry into the filler. Because the attachment cannot raise a bottle that is not air-tight, imperfect containers fall through the conveyor gap into a waste receptacle. The new tester can be used on any conveyorized line using gravity, pressure or piston fillers. It can accommodate a wide range of container sizes and reportedly can achieve speeds of up to 300 per minute. *MRM Co., 191 Berry St., Brooklyn 11.*

Tandem color printing with bag making

Potdevin's new 500 series of flexographic presses is designed for tandem operation with web-fed converting equipment, for production of four-color printing at high speeds. When linked to bag-making equipment, the press's pneumatically operated "throw-offs" automatically engage the impression and transfer cylinders at the start of bag-making operations. The press disengages automatically when bag production stops. Printing speeds up to 1,100 ft. per minute can be achieved on the new presses, says the supplier. Calibrated gauges at color stations regulate air pressure for exact metering of ink. The company also points out that quality color-on-color printing is possible on the presses, which have maximum web widths of 21, 26, 32, 36, 38 and 42 in. *Potdevin Machine Co., Teterboro, N.J.*

Metered-dose dispensing closure

A new integrated dispenser-closure, for use on bottles containing liquids that must be dispensed drop by drop, is offered by Dosamatic Dropper Corp. The closure unit consists of three parts: a polyethylene pipette, a polypropylene screw cap and a rotatable polyethylene bulb which is securely seated on the screw cap. According to the supplier, a positive primary seal is achieved when the cap is screwed on. This feature, the company says, helps cut user-company costs by eliminating the need for packaging a separate dispenser with such bottled products as pharmaceuticals, flavor concentrates and similar drop-dispensed items. Dose calibrations can be hot stamped on the polyethylene bulb prior to assembly. *Dosamatic Dropper Corp., Valley Stream, N.Y.*



High-impact polystyrene resins

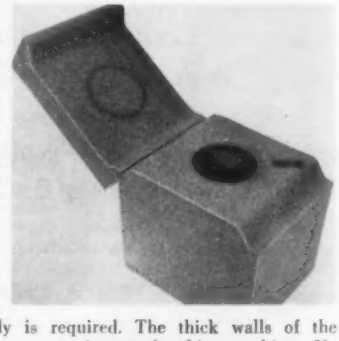
Two additions to the Styron 475 series of high-impact polystyrene resins are reported by Dow. Trademarked Styron 475B and Styron 475C, the resins are claimed to have outstanding impact properties over a wide temperature range. Styron 475B is an extrusion resin, suggested for thermoforming operations. Styron 475C is designed for use in molding operations, particularly the molding of thin-section parts. *The Dow Chemical Co., Midland, Mich.*

New automatic bagging machine

Designed for the bagging of coffee and similar free-flowing or semi-free-flowing products is Hannconn Machine's Model BOF-1 automatic bagging machine. Equipped with two scales and two filling heads, the unit is reported to operate at speeds up to 40 bags per minute. It accommodates automatic-style bags ranging from 8-oz. to 1-lb. capacity. Bags, gravity fed from a stacked supply, are automatically opened, filled and dropped for closing. Also available from the company is the Model BOF-3—the same basic machine, but capable of handling bags of up to 3-lb. capacity. *Hannconn Machine Co., 180 Lafayette St., New York 13.*

Polyurethane-foam shipping container

Designed to offer superior protection to electronic components and other delicate or fragile items is a newly available hinged shipping container made entirely from polyurethane foam. The container was developed by Paramount Foam Industries, using materials supplied by Allied Chemical Corp.'s National Aniline Div. The resilient shipper includes a cored bottom and a fitted, hinged top, both cut from a single block of polyurethane foam. No assembly is required. The thick walls of the cored bottom serve as an impact-absorbing cushion. No supplementary protective-packing material is needed for products shipped in the re-usable container. In addition to superior protection, the supplier points out, the durable foam shipper's light weight and lack of bulk offer reduced shipping costs. *Paramount Foam Industries, Ridgefield, N.J.*



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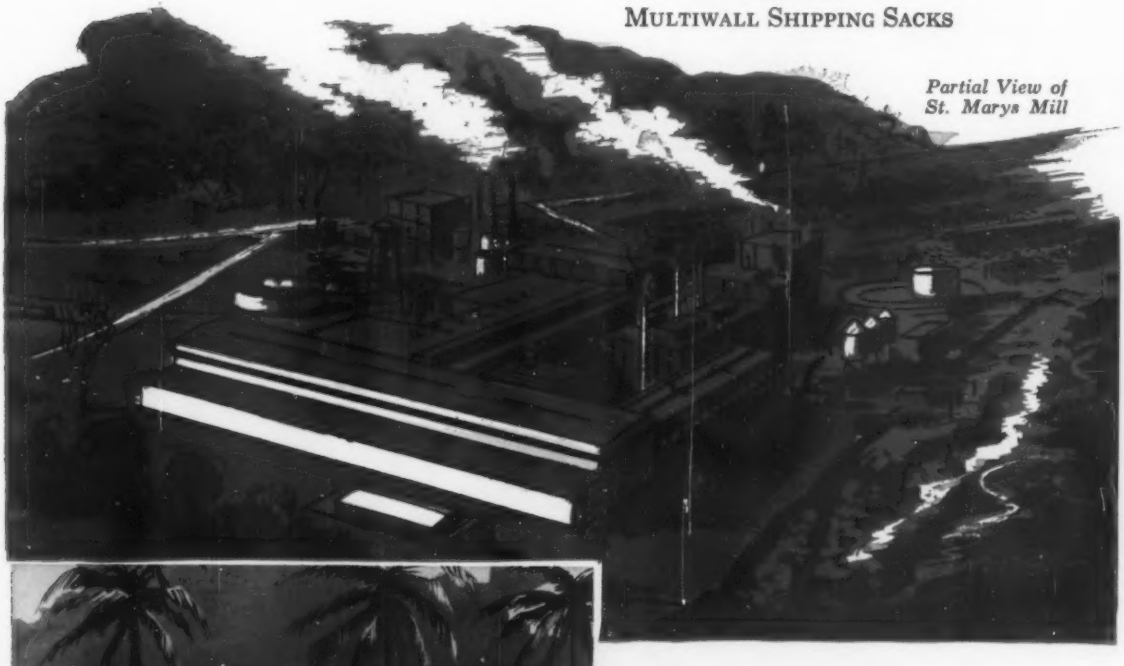

Partial View of St. Marys Mill

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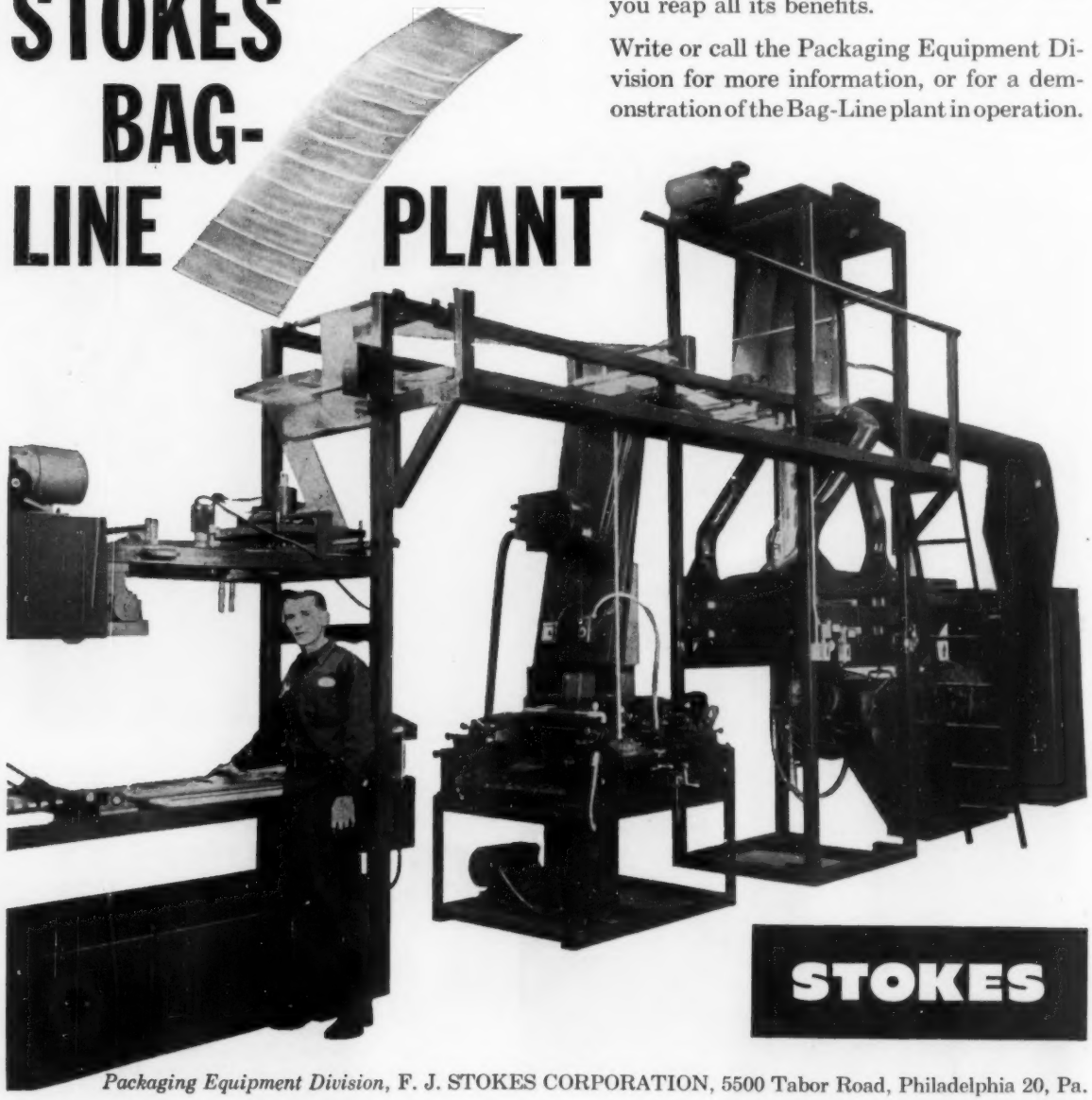

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Alcoa Aluminum Closures

For Your Information

Domestic shipments of new glass containers reached a record high in 1959, according to "Glass Containers 1959," an industry fact book released by **Glass Container Mfrs. Institute.** According to the GCMI report, the total of new glass containers shipped last year (21,607,344,000) exceeded the 1958 total by 7.1%. The latest edition of GCMI's annual fact book includes U. S. Dept. of Commerce figures for 1959, as well as annual shipment figures by end-use category for the 25-year period 1935-1959. End-use categories are divided into four areas: food containers, beverage, drug and cosmetic, and household and industrial chemical containers. Largest of these categories is food containers, which accounted for 41.5% of all domestic glass-container shipments last year. Copies of the illustrated 64-page fact book are available, without charge, on request from GCMI, at 99 Park Ave., New York 16.

Approval of a multi-phase industry program highlighted the recent Chicago meeting of the newly formed **Plastic Food Container Assn.** General objectives of the organization are to provide better quality containers for the grocery, dairy and drug industries. Comprised of leading manufacturers of injection-molded and vacuum-formed food containers, the national trade group has initiated several immediate and long-range plans to meet industry needs. A public-relations program is under way to foster a better understanding of the potential for a broader use of plastic containers in food packaging. **R. F. Smith,** Sealright Pacific, Ltd., is pres. of the new organization. V.p. is **M. J. McCabe** of Neatway Products.

Earnest E. Ludwig, retired v.p. and mgr. of the Kalamazoo office of Bermingham & Prosser Co., has been named exec. secy. of the **Paper Technology Foundation, Inc.,** at **Western Michigan University.** Mr. Ludwig retired last fall after many years' service in the paper industry. He has been associated with the development of the dept. of paper technology at the University since its inception. He is the first person named to devote full attention to the foundation's operation and development.

James E. Heider, a February graduate of the University of Toledo, has been awarded a $4,000 fellowship for study in **Princeton University's** Plastic Program beginning in September. Mr. Heider, who has worked for the past year in the plastics research and development section of **Owens-Illinois'** General Research Dept., is the first Owens-Illinois employee chosen by the University for the O-I fellowship at Princeton. The Princeton Plastics Program is supported by a number of U.S. companies. O-I has contributed $4,000 annually for the past four years.

At its semi-annual meeting held in New York recently, the **Volatile Inhibitor Mfrs. Assn.** elected **Edgar L. Orchard** pres. Mr. Orchard heads the industrial products div. of Orchard Paper Co. Elected v.p.'s were **Walter Spencer,** Daubert Chemical Co., and **James Anwyll, Jr.,** Marvellum Co. **Samuel Lawton, Jr.,** continues as secy.-treas. The association plans to hold its 1960 fall symposium to coincide with other forthcoming packaging-industry meetings.

Orchard

A continuing program of evaluating quality and working on elimination of defects has resulted in steady improvement of corrugated box quality, according to a report given at the 14th annual **Container Laboratories Quality Evaluation & Research Group** clinic held recently in Chicago. A panel of experts discussed and answered questions on quality evaluation in general at the all-day session, which was attended by more than 50 CL clients.

"Technical Considerations of Convenience Packaging" was the theme of a seminar sponsored by the **Packaging Institute** at the annual meeting of the **Institute of Food Technologists,** May 16 in San Francisco. The event, with **C. Paul Bolton** as moderator, was the first cooperative effort by IFT and PI.

An 18-man panel of specialists answered questions on the rapidly growing technology of aerosol packaging at a special seminar for professional members of PI held at New York's Statler-Hilton Hotel on June 1. **Fred T. Pickerell** of Schering Corp. moderated.

Winners in the 1960 National Packaging and Materials Handling Competition have been announced by the **Society of Packaging & Handling Engineers.** The top award winner, recipient of the Henry L. Jackson Award as "best of show" (and also first-prize winner in the show's *Wirebound boxes and crates* category), is **Steve Kuzma,** General Chemical Div., Allied Chemical Corp. Other first-prize winners, and the category for which the prize was awarded, are: **Wilburn Couch,** General Motors Corp., *Corrugated and solid fibreboard boxes;* **A. Bonin,** Norair Div., Northrop Corp., *Nailed wood boxes;* **R. S. Leonard,** Aerospace Div., Boeing Airplane Co., *Cleated boxes;* **A. G. Lynn,** Eitel-McCullough, Inc., *General;* **K. D. Miller,** Rocketdyne Div., North American Aviation, *Military,* and **G. A. Peters,** Autonetics Div., North American Aviation, *Materials handling.*

William E. Zabel, Jr., has been elected pres. of the **Lithographers & Printers National Assn.** at the organization's 55th annual convention in Boca Raton, Fla. He is treas. of Zabel Bros. Co., Philadelphia. **Ralph J. Wrenn,** pres. of Stecher-Traung Lithograph Corp., was named v.p. New treas. is **Frederick T. Marston,** pres. of Kaumagraph Co. **Oscar Whitehouse** and **Robert L. Eger** continue as exec. director and secy.

A comprehensive survey of Government plastics research has been published by the Office of Technical Services, Business & Defense Services Administration, **U. S. Dept. of Commerce.** *New Plastic Materials Through Government Research,* encompassing all major plastics research conducted by various Federal agencies, points out that in recent years the Federal Government has been the primary sponsor of research and development, and came close to matching industry's investment in basic research. Research programs in pure and applied

[*Continued on page 200*]

Events

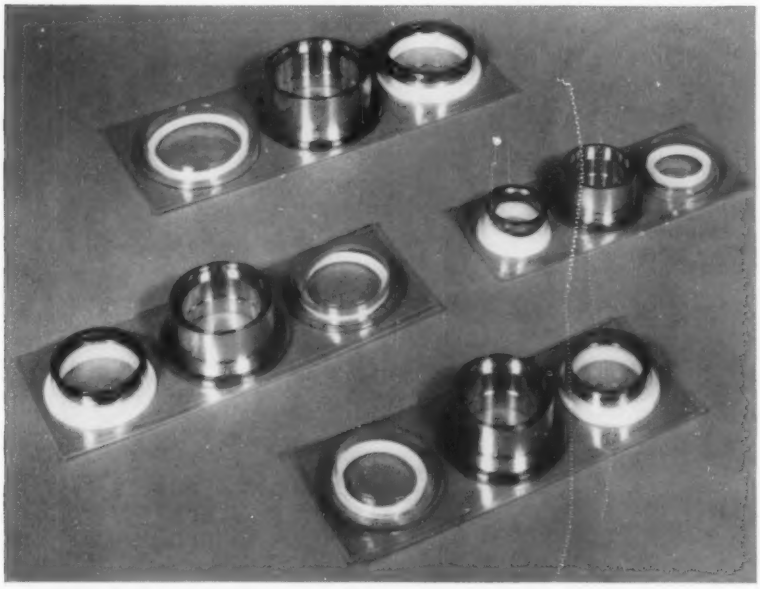
July 5-10—**Service Merchandisers of America,** 1960 summer convention, Ambassador Hotel, Atlantic City.

July 17-22—**New York China & Glass Show,** Hotel New Yorker, New York.

July 19-21—**Western Packaging & Materials Handling Exposition,** Pan Pacific Auditorium, Los Angeles.

CAMPCO

Plastic Sheet and Film / *some practical IDEAS for its use in PACKAGING*



Plastofilm Inc. meets a wide variety of packaging reqiurements with Campco Sheet

This aggressive and progressive Wheaton, Illinois, packaging firm, shipping one-half million packages a day, seldom says "It can't be done". Their job is to solve packaging problems, and they have been remarkably successful. Here are a few examples of the many types of packaging they are turning out, showing how the broad Campco line meets all these varied requirements.

Slide Packs

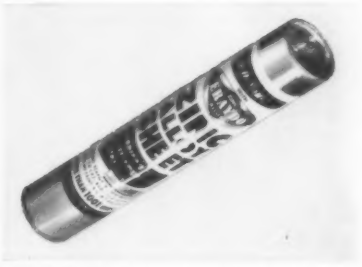
This series of slide packs, shown above, are used for various sized hydraulic cylinder rod assembly kits manufactured by Miller Fluid Power, division of Flick-Reedy Corp., Bensenville, Illinois. Campco A-130 Acetate was used to provide necessary rigidity for the heavy components of the kit. The components are factory assembled into the pack in the correct sequence for installation. The kit is furnished in a cardboard box with complete instructions. The slide pack also permits easy inspection of the kit and virtually eliminates the possibility of an incomplete set.

Metal and Plastic

This round box of Campco Acetate with metal lid and bottom sells sheet metal screws and lock washers for Sterling Bolt Company of Chicago. The cardboard sectional divider enables package to store various components without mixup. Contents are easily seen and identified, yet the package is sturdy for transporting and store handling.

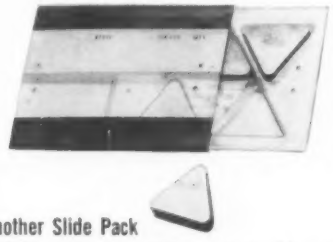
Beaded Package

Campco B-120 Butyrate displays strength in enclosing rolled zinc alloy sheet for Illinois Zinc Company's do-it-yourself metal distributed through wholesale hardware and material distributors. The appearance of this beaded package at point-of-purchase was a deciding factor in Illinois Zinc's choice of this material which displays the product and sells its use, too.



Package Within a Package

The cardboard gift box for these Paper-Mate pens is protected by a blister formed of Campco B-120 Butyrate. The card provides pilferage protection.



Another Slide Pack

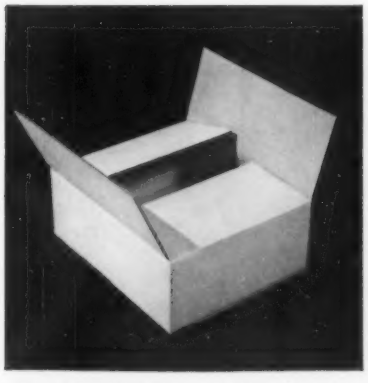
This compact slide pack for Vascoloy Ramet Corp., Waukegan, Ill., protects very fragile carbide inserts, while providing visibility and ease of inspection by the buyer without damage to the product. Distributed to manufacturing plants through agents and distributors. The material is Campco Acetate.

Received Your Campco Packaging Data File? This data-packed reference file on thermo-plastic sheet and film is yours on request—just send name and address on Company letterhead to Campco, 2717 A Normandy Ave., Chicago 35, Illinois.

CAMPCO Sheet and Film, **a Division of Chicago Molded Products Corp.**

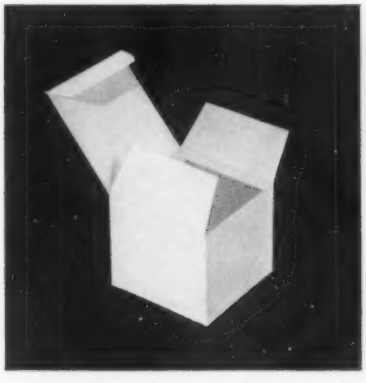
The International Paper Guide to Packaging—1960

(From International Paper's 16 mills and research centers come these pace-setting packaging developments)



1. GOLDKRAFT* LINERBOARD. Amazing new corrugating liner with a second color built right in. Made of rugged Gator-Hide® kraft. New Goldkraft saves manufacturers the cost and time of an extra over-all color printing.

*T.M.



2. IPX* BOARD. Now a truly outstanding printing surface and a fresh, light interior are combined in an economical packaging board. Made from fine bleached sulphate pulps and inexpensive groundwood pulps.

*T.M.

3. MULTIWALL BAGS. Hy-poly kraft set new standards in moisture protection. Extensive tests (90% relative humidity at 100° F. for two weeks) proved this. Hy-poly saves money over medium and low-density poly-coated bags.

4. INDUSTRIAL PAPERS. The latest addition to our complete line of strong papers is amazing *bleached* Gator-Hide Extensible Kraft. Provides built-in stretch for extra strength. Ideal for multiwall bags and many other uses.

5. PAPER BAGS. In 1960, International Paper offers a full range of paper bags. Grocery, bakery, shopping, and scores of specialty bags. All made of strong Gator-Hide—the world's most widely used kraft paper.

6. MILK CONTAINERS. Pure-Pak® containers are still another example of International Paper's ability to offer the widest range of packaging papers, boards and assistance in the industry. Call us for all your packaging needs.

®Ex-Cell-O Corp.

INTERNATIONAL PAPER New York 17, N. Y.

Manufacturers of papers for magazines, books and newspapers • papers for home and office use • converting papers • papers and paperboards for packaging • shipping containers • folding cartons • milk containers • multiwall bags • grocery and specialty bags and sacks • pulps for industry • lumber, plywood and other building materials

F.Y.I. [Cont'd from page 196]

science are covered, and categories of plastic research are reviewed. The report, PB 161332, at $2.25 per copy, may be ordered from OTS, U. S. Dept. of Commerce, Washington 25, D. C.

The board of directors of the **Canning Machinery & Supplies Assn.** met May 19-20 in Washington, D. C., to develop plans for the next **Canners Show and Convention.** The 1961 event will be the 54th annual exhibit of food-processing machinery, supplies and services. It is attended by food processors from the U. S. and abroad.

Earl Kintner, chairman of the **Federal Trade Commission,** and **J. K. Kirk,** asst. to the commissioner of **Food & Drug Administration,** were among the speakers at the 46th midyear meeting of the **Chemical Specialties Mfrs. Assn.,** May 16-18, at the Drake Hotel in Chicago. Mr. Kintner discussed "Responsibilities of Government and Business in our Free Market Economy." Mr. Kirk spoke on food additives.

A new brochure, "Carbonated Beverage Canning Lines," describing the equipment necessary for setting up soft-drink canning lines, has been compiled by **Continental Can Co.** The ring-bound booklet is available at no charge from Concan at 100 E. 42 St., New York 17.

The **Paper Industry Career Guidance Committee** is conducting its first industry-wide Education Status Review. Questionnaires, mailed to more than 1,000 pulp, paper and paperboard manufacturers and converters in the U. S., are being used as a means of determining the number of college graduates now employed in the industry and the number needed in the next five-year period. Information thus obtained will, according to the committee, help in the planning of a specific program designed to lead young people toward career training in the paper industry.

The **British Institute of Packaging** plans to hold its first residential packaging-education course next spring at the University of Reading, April 9 through 22. The institute also is currently organizing the Starpacks 1960 package design competition.

Zein, an industrial protein with varied packaging-field application possibilities, is discussed in a new 40-page booklet from **Corn Products Sales Co.** Titled "Argo Brand Zeins G200 and G210," the booklet describes the properties of and uses for two types of zein—an alcohol-soluble type and a mild aqueous alkali-dispersable type. Suggested uses include pharmaceutical, food and paper coatings, inks, cork seals (see "Mold-free Cork Liners, MODERN PACKAGING, July, 1958, p. 155), fusion resins and release coatings. Film-forming, binding and adhesive characteristics of zeins also are discussed in the booklet. Copies of the illustrated booklet can be obtained, without cost, from the company at 717 Fifth Ave., New York 22.

U. S. Patents Digest

This digest includes each month the more important patents of interest to packagers. Copies of patents are available from the U. S. Patent Office, Washington, D. C., at 25 cents each in currency, money order or certified check. Postage stamps are not accepted. Edited by H. A. Levey.

Method and Apparatus for Excluding Air in Packaging Powdered Materials, Herbert A. Barnby (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,931,147, April 5. The method of packaging a powdered product which comprises transporting a container to a vacuumizing station, a filling station and a capping station, vacuuming the container and filling it with an inert gas at said vacuumizing station.

Packaging Machine and Method of Packaging, Wallace F. Mitchell (to E-Z Packaging Corp., Chicago, a corporation of Illinois). U.S. 2,931,149, April 5. A packaging machine for forming a bag around an article to be packaged, using flexible, heat-sealing, thermoplastic film stock in longitudinally folded web form.

Apparatus for Packaging a Liquid Under Pressure, James F. Ryan, Jr. (to W. F. & John Barnes Co., Rockford, Ill., a corporation of Illinois). U.S. 2,931,150, April 5. An apparatus for packaging a liquid product, comprising chamber means, means for supplying a liquid product to said chamber means and means for supplying a gas under a predetermined super-atmospheric pressure to said chamber.

Can-Packaging Machine, Edward L. Arneson (to Federal Paper Board Co., Bogota, N.J., a corporation of New York). U.S. 2,931,152, April 5. A machine for forming a package which is characterized by a group of cylindrical articles enclosed in a paperboard wrapper, the wrapper being in the form of a blank divided into hingedly connected side and end wall-forming panels.

Carton-Closing Machine, Wilbert P. Daniels (to Green Bay Box Co., Green Bay, a corporation of Wisconsin). U.S. 2,931,153, April 5. A carton-closing machine comprising an upright hopper having relatively fixed upright constricting walls in which previously closed cartons are impositively confined against gravity descent.

Carton Package, Leonard McGihon (to King Sales & Engineering Co.). U.S. 2,931,490, April 5. A carton and container package, said carton having respective top and bottom panels joined at one end by an end panel hinged thereto and having end panel portions at their other ends for securing together to form a second end panel.

Carrying Device for Containers, Russell C. Taylor (to American Can Co., New York, a corporation of New Jersey). U.S. 2,931,491, April 5. A unitary carrying package comprising a pair of juxtaposed rectangular containers having opposed substantially flat sides disposed in contiguous relation and having laterally projecting peripheral ledges at their upper ends.

Can Pack, Carrier Tube and Blank, Carl T. Osterberg (to Cornell Paperboard Products Co., Milwaukee, a corporation of Wisconsin). U.S. 2,931,492, April 5. A packaging tube for articles having chimes, said tube comprising a wall portion in a position to rest against the chime edge and having a pair of tabs connected to wall portion upon lines substantially normal to such edge.

Container-Covering Machine, William T. Sauremann (to Sealright-Oswego Falls Corp., Fulton, N.Y., a corporation of New York). U.S. 2,932,141, April 12. A machine for applying flanged slip covers to containers, comprising a container guideway, an inclined cover chute having a bottom wall terminating above the guideway adjacent one end.

Multicompartment Package With Internal Breaker Strip, Emil Bollmeier and Leo F. Vokaty (to Minnesota Mining & Mfg. Co., St. Paul, a corporation of Delaware). U.S. 2,932,385, April 12. A package comprising a hermetically closed envelope of thermoplastic polymer film enclosing a hollow breaker strip of thermoplastic polymer material of less internal strength than the film.

Bottle Carrier, Edwin L. Arneson (to Federal Paper Board Co., Bogota, N.J., a corporation of New York). U.S. 2,932,424, April 12. A paperboard article carrier adapted to receive articles therein which have a width across the bottom approximating the inside bottom width of the carrier.

Bottle Carrier, Claude C. Freeman (to Container Corp. of America, Chicago, a corporation of Delaware). U.S. 2,932,425, April 12. A collapsible carrier for bottles or the like, said carrier being formed of foldable paperboard and comprising an elongated, rectangular bottom panel, with an elongated, composite side-wall section and handle-section panel hinged on each longitudinal edge of the bottom panel.

Dispenser for Pressure-Packed Materials, Robert H. Abplanalp, Bronxville, N.Y. U.S. 2,932,433, April 12. A dispenser for pressure-packed material, comprising a container charged with an active ingredient and a propellant, said container having a valve housing provided with a valve and a single dip tube depending from the valve housing to the bottom of the container.

Commodity Package, Robert R. Scion and Fred J. Bock (to Milprint, Inc., Milwaukee, a corporation of Delaware). U.S. 2,932,575, April 12. A commodity package comprising superimposed plies of flexible packaging material united along all but one of their marginal edges to provide a normally flat pouch-like receptacle having an access mouth.

Carton-Sealing Machine, Henry C. Segerstrom and Walter J. Andrews (to International Paper Co., New York, a corporation of New York). U.S. 2,932,927, April 19. A machine for providing a compressedly sealed joint between two portions of a carton in which one portion has flaps adapted to be bent against and adhesively pressure joined to corresponding surfaces of the other portion.

Apparatus for Handling Bundles, Carl T. Lanstrom and Paul H. Putnam (to United States Steel Corp., a corporation of New Jersey). U.S. 2,933,202, April 19. The combination—with a machine which feeds in rapid succession elongated cylindrical articles traveling in the direction of their lengthwise axes—of an apparatus for collecting and bundling the articles, comprising a plurality of pedestals spaced apart in the direction of article travel.

Label-Dispensing Machine, Gerald E. Cole (to Kleen-Stik Products, Chicago, a corporation of Illinois) U.S. 2,933,216, April 19. A machine for dispensing labels with their adhesive sides up from a rolled backing strip having the labels adhesively mounted thereon.

Molded Egg Carton, Raymond Vahle (to Continental Can Co., New York, a corporation of New York). U.S. 2,933,227, April 19. A molded egg carton comprising a body having upwardly extending side walls and end walls containing two rows of cells therebetween, the top surface of said body end walls being V-shaped.

Container, Reynolds Guyer (to Waldorf Paper Products Co., St. Paul, a corporation of Minnesota). U.S. 2,933,228, April 19. A paperboard container blank including a liner sheet, a corrugated sheet adhered to one surface thereof and a series of parallel liner strips adhered to the corrugated sheet on the side thereof opposite that attached to the liner sheet.

Carton, Milton Yezek (to General Foods Corp., White Plains, N.Y., a corporation of Delware). U.S. 2,933,230, April 19. In a carton, a carton-forming blank having side and end wall panels, extensions on said panels forming top closing flaps for said cartons, said top closing flaps including side closing flaps and end closing flaps.

Cellular Carton, Carl T. Colgren and Richard G. Haas (to KVP Sutherland Paper Co., Kalamazoo, a corporation of Delaware). U.S. 2,933,231, April 19. A cellular carton comprising front and rear walls, the height of the rear wall substantially exceeding that of the front

Patents [*Continued*]

wall, bottom members hingedly connected at their outer edges to the bottom edges of the front and rear walls.

Machine for Securing Wire Fasteners to Boxes, Edward A. Strollis (to Kemp Equipment Co., Rochester, a corporation of New York). U.S. 2,933,733, April 26. A machine for forming and applying a wire fastener to an article, comprising a work support, a base, a slide reciprocable rectilinearly on said base toward and from said support.

Method and Means for Packaging Cans Having Chimes at the Ends Thereof, Hermond G. Gentry (to Mead Packaging, Inc., a corporation of Ohio). U.S. 2,933,867, April 26. Apparatus for packaging cans having chimes at the ends thereof in an open-ended paperboard wrapper formed from an elongated and proportioned blank.

Mechanism for Treating Filled Packages, Alfred Graefingholt (to Fr. Hesser Maschinenfabrik AG, Stuttgart-Bad Cannstatt, Germany). U.S. 2,933,868, April 26. A gas-filling device for treating filled packages, comprising a rotatable drum, a plurality of chambers mounted in a circle on said rotatable drum and means to pivot each of said chambers relative to said drum.

Cell Structures for Use in Filling and Closing Containers, Gunther Meyer-Jagenberg (to Jagenberg-Werke AG, Dusseldorf, Germany) U.S. 2,933,869, April 26. The combination—with a conveying means for moving an open-ended container past a filling station, a folding station and a sealing station—of a cell structure carried by a conveying means and adapted to support the container.

Means for Folding Paperboard Wrappers About Objects to be Packaged Therein, Hermond G. Gentry (to Mead Packaging, Inc., a corporation of Ohio). U.S. 2,933,870, April 26. Apparatus for packaging objects in an open-ended paperboard wrapper formed from a substantially rectangular blank.

Wrapping Machine, Leonard Brook (to The Forgrove Machinery Co., Ltd., Leeds, England). U.S. 2,933,871, April 26. In a wrapping machine, a wrapping wheel including a support plate arranged to rotate intermittently on a horizontal axis, a plurality of pairs of article grippers pivotally mounted on the front of the support plate and serving to convey articles in succession from a loading station.

Container-Flap Cutting Machine, William J. Hottendorf and Chester E. Harshman (to H & C Engineering Corp., Sunnyvale, Calif., a corporation of California). U.S. 2,933,987, April 26. A box-flap cutting machine operative to reduce in size top and bottom flaps of collapsed boxes.

Wrapping Machine, John David Bennett and Rowland Walker (to The Foxgrove Machinery Co., Ltd., Leeds, England). U.S. 2,934,196, April 26. The combination—with a pocket conveyor chain for conveying articles to a transfer station—of a pusher at the transfer station mechanism for reciprocating the pusher transversely to the chain in timed relation to the forward movement thereof, to discharge the articles in succession from the pockets in the chain.

European trends at Interpack

Dusseldorf show reflects growth of plastics and higher machine speeds.

Speakers at EPF Congress cite packaging impact of Common Market and polyolefins

American visitors to Interpack 1960—the second International Packaging Exhibition and Display of Confectionery Machinery—at Dusseldorf, West Germany, April 20-27, were impressed by recent European developments in two areas significant to packagers: (1) the increasing importance of plastics and (2) a step-up in speeds of European-built packaging machinery. Also apparent at the exhibit were greater versatility and potential in both new and modified equipmnet.

Paralleling a trend in American packaging, particularly evident at successive American Management Assn. National Packaging Shows, European suppliers are capitalizing on the appeal of plastics to packagers by making available more film, sheet and coatings, as well as machinery to handle plastics. At the same time, equipment makers are building more speed capabilities into much of their packaging machinery. Though not yet up to the rated speeds of U. S. units, new European equipment appears to be faster than earlier models.

As previously noted*, at least 370 of the 504 exhibitors at the dual show displayed items of interest to packagers. Staged in six separate halls, the show was so extensive that it was estimated a visitor, to pass each exhibit once, would have to walk more than four miles.

In his tour, he could discover, reportedly for the first time in Europe, accurate machine counting of candies on a new "Candy Counter" (Hamac-Hansella-Sapal). From a hopper, candies in any form of wrap are fed through channels and over a trip bar into correct counts in reservoirs for discharge to the buckets of a suitable elevator, in this case that of a pouch-making machine. Various adjustments are possible and count is said to be highly accurate.

The potential of the "Formpack" machine was further demonstrated with production of what is virtually a trapezoidal flat bottle. The new bottle has one long side, one short top side, one longer base and a tapering fourth side, with flat front and back faces, a new conception of shapes possible on this equipment (Hydro-Chemie).

Another significant machine is said to produce "the long-awaited biscuit pack." On it, three or more stacks of biscuits (round, square, etc.) can be automatically collated into a complete two-part corrugated wrap with a full overwrap of heat-sealable material, with or without tear tape and end-seal labels. The machine (SIG Swiss Industrial) applies reel-fed corrugated paper as a base with folded-up ends, then covers this with an inverted U-section to enclose top and sides.

An example of higher machine speeds was seen in a new continuous turntable-type machine (Zupack) which fills washing powders and other free-flowing materials into knocked-down cartons at 280 per minute. It handles a wide range of container volumes and applies sift-proof bottom and top glue seals.

What is said to be Europe's first four-corner staying machine operates at from 40 to 100 units per minute on sizes from 1¾ by 2½ by 4/10 in. deep to 12⅛ by 13¾ by 3⅛ in. deep and pre-breaks folds through 120 to 160 deg. (Jagenberg Werke).

Versatility was evident in a foil-packaging machine (Rasch) that, operating from a standard universal and basic construction, can be adapted for many different purposes by changing the turntable and appropriate attachments. For example, it can be switched from the foil wrapping of chocolate "bottles" to spherical shapes or flat-sided tablets, or it can twist wrap or band tablets, and even incorporate a string attachment. Output is from 100 to 160 pieces per minute.

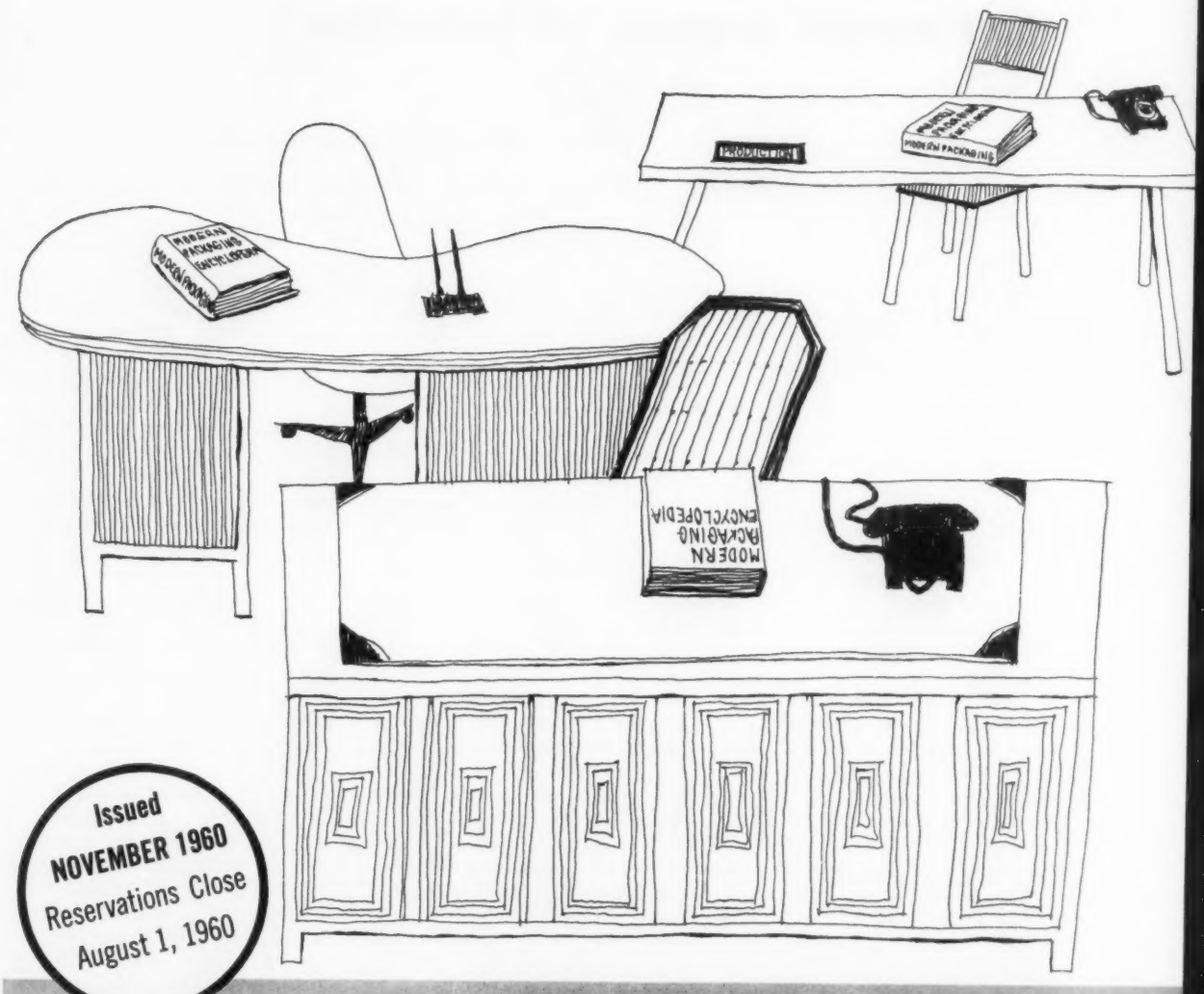
Comparisons and contrasts between American and European packaging objectives and achievements and recent progress in polyolefins were reported to an audience of 530 at the concurrent Fourth International Packaging Congress, also held in Dusseldorf.

Lloyd Stouffer, editor of MODERN PACKAGING, predicted increasing influence of the Common Market principle on European packaging. The advantages of high-speed, high-volume production, more exacting product protection and the sales appeal of convenience packaging will become more important to European packagers, he said, when they can produce, as Americans now do, for a combined market of close to 200 million people living in climates ranging from the sub-arctic to the sub-tropical.

He advised Europeans to reconsider packaging principles and practices which now fit the American economy because, with the broadening influence of the Common Market, these techniques will soon fit the European situation. "You will be shipping farther and the high-quality packaging and packing materials which now seem a luxury will become a necessity," he warned.

Charles A. Southwick, Jr., technical editor of MODERN PACKAGING, documented with case histories the fact that polyolefins are continuing their rapid growth and are penetrating new packaging areas. Each new resin, process and package development, he noted, adds another dimension to this growth. "The present uses and tonnages, rate of growth and potential, all indicate that the polyolefins can become the most important class of materials in packaging," he predicted, citing their "phenomenal acceptance" for packaging in the United States in the past decade. He credited these gains to a combination of wide performance range, unusual processibility and low cost. ●

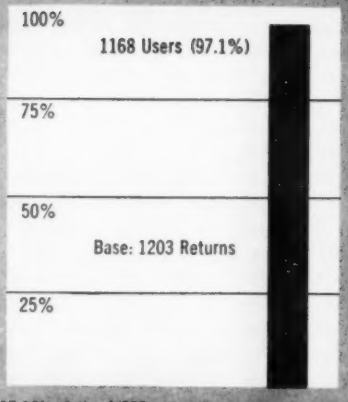
*See "Second Interpack Show at Dusseldorf of Interest to U. S. Packagers," MODERN PACKAGING, June, 1960, p. 204.



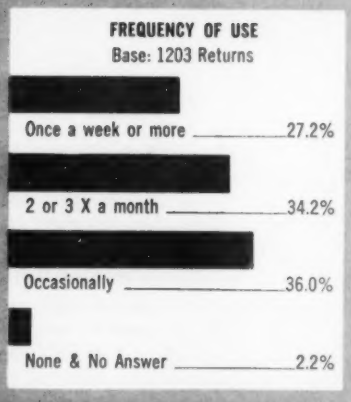
Issued
NOVEMBER 1960
Reservations Close
August 1, 1960

New study shows heavy usership of

To determine usership of the Encyclopedia, a 4-page questionnaire was sent to 5,000 MODERN PACKAGING subscribers on March 4, 1960. By April 1, a total of 1,203 (24.1%) completed returns and 202 (4%) uncompleted returns had been received...a total of 1,405 returns (28.1%). All 1,203 completed returns were tabulated. Charts at right show answers to five of the questions asked. For copy of complete report call your MODERN PACKAGING sales representative or write our nearest office.



97.1% of the 1,203 subscribers who answered the questionnaire said they referred to one or more sections of the Encyclopedia.



Three-fifths of all respondents indicated that they use the Encyclopedia at least twice a month.

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THE WORKBOOK OF A $16,500,000,000 MARKET

Packaging has grown to its great size by giving tremendous merchandising, protective and competitive advantages to all kinds of consumer and industrial products. And the market continues to grow as a wider variety of items are being packaged.

The most effective way of maintaining year-round contact with the many diverse buying influences in this big, sprawling market is through the pages of the annual MODERN PACKAGING ENCYCLOPEDIA ISSUE. This book, published as the 13th issue of MODERN PACKAGING, reaches every major package-using industry...carries more advertising to packagers than any other publication anywhere on earth. It is the day-to-day workbook of men in mass packaging organizations—the only such source on the market.

Every year, more than 100 authorities contribute material to keep the MODERN PACKAGING ENCYCLOPEDIA ISSUE up-to-date and accurate. The current issue's 818 pages include detailed data on packaging materials, containers, machinery and methods; 307 pages of advertising placed by 312 leading suppliers—plus a comprehensive, inquiry-producing Buyers' Directory and a Manufacturers' Literature Section.

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These containers
bags
"blister" packs
bottles
boxes
cans
cartons
crates
capsules
drums
envelopes
jars
tubes
vials
wrappers

These materials
adhesives
coatings
film
foil
glass
ink
metals
paper
plastics
tape
wax
wire

This equipment
bag machines
bottling equipment
box machines
capping equipment
cartoners
conveyors
counters
die-cutters
filling machines
labelers
printing presses
scales
sealers
slitters
staplers
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unscramblers
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These services
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designing
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MODERN PACKAGING encyclopedia issue

"MOST USEFUL" ADVERTISEMENTS
Base: 1203 Returns

Catalog Type Listing Products	46.8%
Technical Information	46.1%
New Product Announcements	65.5%
Samples of Materials	39.8%
Case History of Product Use	35.4%
"Idea" or "How To" Advertisements	44.3%

Six major types of advertisements received "most useful" mentions. Some respondents indicated preference for more than one type.

EXTRA USERS OF ENCYCLOPEDIA
Base: 1203 Returns

Subscribers	Additional Users	%
943	One or More	78.4%
675	Two or More	56.1%
373	Three or More	31.0%
206	Four or More	17.1%
118	Five or More	9.8%

Advertisers can count on an average of from two to four extra users of the Encyclopedia, in addition to the subscriber.

PURCHASING ACTION TAKEN
Base: 1203 Returns

Placed an Order	17.3%
Directed Purchase	9.1%
Requested Information or Sample	54.9%
Asked Salesman to Call	35.7%
Asked Associate to Investigate	20.6%
Cannot Recall	12.7%

After having Encyclopedia for one quarter of a year, 3 out of 4 respondents had taken one or more types of purchasing action.

Polyethylene netting

[*Continued from page 99*]

table conveyor where the red net bags are slipped down over the tops of the bottles. About 2½ in. of net are allowed to extend past the bottom of each of the bottle. Placed horizontally in V-shaped jigs on a turntable, the bottles are rotated in front of a standard hot-air blower that softens and shrinks the netting, encouraging it to conform to the bottom of the bottle. A Teflon-coated roller mounted next to the heater rolls the netting flat on the bottom of the bottle, effecting a final seal.

It was found that by shortening the bag to allow only about 1½ in. of extra net produced an open seal on the bottom of the bottle, leaving a round space of clear glass. This technique is now used for bottles requiring dealer labels, which retailers place on the bottom of the bottle without removing the netting.

For the champagne bottle, which requires a different packaging technique because the hollow base provides no flat surface for positive sealing, a gold net bag is slipped over the bottle and held in place at the top with a foil seal, a closure commonly used for this bottle.

Present packaging speed is 20 bottles per minute, using three operators, but company officials feel that with longer runs this rate can be raised to 25 per minute and supplier engineers are confident that hot-air sealing techniques can be developed for line speeds up to 125 a minute.

Experience with shipping has been too short to document the protective advantages of the new sleeve, but the netting is reported to make a tighter shipping package and it is hoped that the cushioning effect of the plastic web will reduce breakage.

For other packaging applications, the netting can be created in an infinite variety of mesh sizes and patterns, filament diameters, strengths and colors. It has been successfully tested as a bag for fresh produce and may appear shortly in commercial applications, when automatic bag-making machinery is refined. For effective merchandising and pilferage protection, the netting is projected for a wide range of bottles, cans and aerosols, particularly in the pharmaceutical, cosmetic and liquor packaging fields. Multipackaging may also broaden its use. ●

THERE'S MORE THAN DRIED BEEF IN THIS MILPRINT PACKAGE

There's imagination, skilled research and quality production in the rotogravure printed lamination of film, foil, adhesives and thermoplastics. This package protects both the product and its maker's opportunities for initial *and* repeat sales. / There's a typical example of the right *custom combination* of materials and printing process at economical cost—the result of Milprint's "open mind" approach that favors no particular material or printing process because *Milprint offers you the widest variety available anywhere.* / There's a quality food product and a famous brand name—another combination typical of Milprint, flexible packaging's pioneer company. / Bring your next packaging problem to us and discover . . .

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Milprint Inc.
World's Most Resourceful Flexible Packaging Service.
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Milwaukee, Wis.,
Sales Offices and plants conveniently located across the nation

PI glass forum

Questions on how to improve glass-container specifications, design and labeling, and how to reduce breakage were answered by an 18-member panel at a recent Packaging Institute seminar for professional members.

Headed by Irwin Sipherd of National Distillers Products Co., the panel included packaging experts from glass-supply companies, machinery manufacturers, and from food, beverage and pharmaceutical companies who answered questions submitted by more than 50 packaging men from virtually every industry engaged in glass packaging.

Greatest volume of questions concerned tighter specifications and standardization for glass bottles and vials. Glass manufacturers on the panel declared that there is no general industry movement toward tighter tolerances and, in fact, they defended present standards as realistic and economical from the standpoints of both manufacturing and end use. Standardization of glass-container types is proceeding slowly, it was said, but has been retarded by competition and demands of glass packagers for distinctive containers.

Increased use of such special containers has raised problems in design, too, the glass men asserted, since most industrial designers are not versed in manufacturing and handling problems. Particularly unfortunate, said the glass manufacturers, are some recent glass bottles with sharp angles, large flat panels, fluted or pebbled surfaces, reverse tapers and hour-glass shapes. Extremes in these designs create problems in automatic labeling and should be minimized where mechanized labeling is desired.

Queries on breakage elicited several tips on functional design and handling of glass. Latest silicone and stearate coatings were said to reduce breakage as much as 50% through preservation of the surface of glass containers. Outmoded packaging and handling equipment was scored as a big contributor to unnecessary breakage. And packagers were warned that, while new, lightweight containers do flex under impact and have great temperature resistance, sharp contact should be kept below 10-15 in. oz. and thermal gradients must be kept within 60 deg. F. for efficient performance. ●

It's becoming increasingly difficult today to name an industry that *doesn't* specify Standard Packaging. • Why? Standard offers you a *marketing* approach to packaging—based on an understanding of your product from conception to consumer. The way it is made. Its uses and features. How it is distributed. Who buys it . . . and why. Which types of materials—paper, film, foil (or combinations)—are most effective. And most economical. • This total marketing concept is as important to successful packaging as it is to successful advertising. It means looking at your package from your *customer's* viewpoint. Always. • In the final analysis – isn't this the viewpoint that matters most?

STANDARD PACKAGING CORPORATION · Executive Offices: 200 East 42nd Street, New York 17, New York

Minute Maid tests aluminum, adopts new design

The Minute Maid Corp., Orlando, Fla., is making interesting packaging news on two fronts:

1. At its Auburndale, Fla., processing plant the company recently completed a three-week test run of 6,500,000 aluminum cans for its frozen concentrated orange juice, employing portable can-making equipment in conjunction with its regular filling line.

2. Nationally, the company is introducing new surface designs for its 13 canned citrus products and shipping cartons.

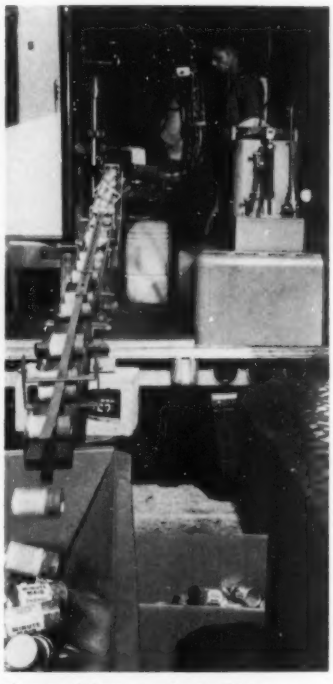
The experimental run at Auburndale was supplied with three-piece, pre-printed, pre-cut, 6-oz. aluminum-can components received in pallet loads and run through can-assembly equipment operated in two huge trailer vans.

Both can components and assembly units for the test were provided by the aluminum supplier, the Reynolds Metals Co., Richmond.

The can-assembly unit ran at 400 cans per minute, though it is reportedly capable of 450. The filling line for these cans was operated at the same speed, though it is capable of 600 to 700 per minute. Reynolds reported that more advanced assembly equipment should be ready for the next packing season to permit complete integration with high-speed filling lines. The only contrast with standard can-assembly equipment is said to be the substitution of vacuum devices for magnets used in tinplate operations.

Since its aluminum cans are, according to Reynolds, competitively priced with comparable tinplate, the big advantage is in freight savings. Minute Maid's experimental run used 0.008-gauge aluminum for can bodies and 0.009 for ends, compared with 0.0083 for all components of tinplate, which represents a total weight saving of 2.7 lbs. per 48 cans.

Although such aluminum containers are one-third the weight of comparable cans made of tinplate, it is reported that the cost saving on filled cans amounts to 10%, or about $1 per thousand cans.



Can making *on wheels. This portable equipment housed in two trailers tested 6,500,000 aluminum cans for citrus processor. Cans fabricated from pre-cut components were fed into regular filling line.*

Explaining that its interest in the Minute Maid test is solely in promoting and selling aluminum, not in competing with established can manufacturers, Reynolds referred all questions about the next step to Minute Maid, which was non-committal pending complete evaluation, though John M. Fox, president, said that "if the test program produces the results we expect, Minute Maid will increase its use of aluminum cans in future years." ●

Undulating *color bands and modern "double-M" crown distinguish new can and carton designs for Minute Maid's 13 citrus products. Design by Jim Nash Associates.*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This is new Smoothfoil, created by Ekco-Alcoa. It is a unique find for the packaging innovator who wishes to score a marketing first. Smoothfoil's entrancing beauty is difficult to resist. Its airtight hermetic seal lets you shelf and keep moisture-sensitive products with complete safety . . . jellies, jams, coffee, sugar, ball bearings, pharmaceuticals, electronic parts . . . the list is endless.
Smoothfoil typifies Ekco-Alcoa's ability to produce the new and unusual. We take your packaging problem—design, test—and transform it into a bold, exciting aluminum package that fits your exact needs. Few shapes, sizes and colors are beyond our reach. And we mass-produce to keep unit cost surprisingly low.
The result is a package—like Smoothfoil—that is undeniably new, undeniably your own. Consult us for particulars.
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EKCO is the registered trademark of Ekco Products Company. ALCOA is the registered trademark of Aluminum Company of America. The corporate name and combination mark, EKCO-ALCOA, is used under license to the manufacturer by each of these companies.

Packaging School gifts

A $50,000 contribution by the Glass Container Mfrs. Institute is the largest cash gift received to date by the Michigan State University School of Packaging Foundation, Inc., in its drive to raise $2,000,000 for the construction of a new School of Packaging building on the university's campus at East Lansing, Mich. The second largest donation, previously announced, was $25,000 by the Signode Steel Strapping Co., Chicago, whose executive vice president, J. Milton Moon, is serving as chairman of the non-profit foundation's board of trustees.

Other newly announced contributions include $1,000 each from the Printing Ink Div. of the Interchemical Corp., New York, and Stone Container Corp., Chicago. This raises to 19 the number of companies, associations and foundations making major contributions totaling almost $190,000 in cash, plus 12 smaller gifts of less than $500 each. Other companies have donated a wide variety of construction materials in substantial quantities.

Newly appointed trustees of the foundation include L. A. Curtis, Package Machinery Co.; J. F. Mitchell, Chrysler Corp.; William W. Finn, St. Regis Paper Co., and Vern I. McCarthy, Jr., Vulcan Containers.

The MSU School of Packaging offers the only four-year accredited university-level packaging course in the country. ●

New Union Carbide lab

Now in operation at Tarrytown, N.Y., is a new Technical Service Laboratory of the Union Carbide Chemicals Co. The laboratory building, housing about 100 scientists and a supporting and administrative staff of 50 people under the direction of Dr. A. B. Steele, is divided into 46 laboratories and 33 offices. A mechanical-test building adjoins the main laboratory. Among 29 major industry groups in which work is now in progress are aerosol propellants, plasticizers, water-soluble chemicals and surface coatings.

This installation centralizes and expands the company's customer service and use research that has been conducted principally at the Mellon Institute, Pittsburgh, as well as at five other locations. ●

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HELPFUL LITERATURE FREE

There is valuable data — worth dollars and cents to you — in the literature and samples described below.

EQUIPMENT • SUPPLIES • SERVICES

COTTON CORRUGATED CUSHIONING. Brochure contains 2-page illustrated folder and samples of cotton-corrugated protection for fine polished surfaces in packing and shipping. Specifications. Chippewa Paper Products Co., Inc. (G-050)

GLASS PACKAGING. 12-page booklet analyzes supermarket buying patterns. Impulse buying specifically detailed along with its concomitant demands for superior packaging. du Pont de Nemours & Co., Cel-O-Seal Div. (G-051)

TIGHTENERS. 4-page bulletin describes three semi-automatically operated tighteners. Models readily adjustable; apply screw or lug-type closures, have uniform torque by automatic capping cycle and can handle any shape container up to 7 in. diameter. Carbert Mfg. Co., Inc. (G-052)

SEALED FOLDER. Complete descriptive kit of sealed folders that are labeled to the outside of containers. Also details of automatic wax dropper for applications on an assembly line basis. Samples attached. Outserts, Inc. (G-053)

FASTENERS. 6-page brochure describes new automatic fastening machine. It applies a metal, air-tight closure, and by using a double length of casing up to 2,500 an hour can be pre-tied. Closures are strong, lightweight and inexpensive, preventing food spoilage. Vac-Tie Fasteners, Inc. (G-054)

PACKAGING DATA FILE. 24-page booklet, profusely illustrated, describes thermoplastic sheet and film packages of acetate, butyrate and styrene, that have been "sales successful." Campco Div. of Chicago Molded Products Corp. (G-055)

PRESSURE SENSITIVE LABELS AND TAPES. 8 pages of technical data and descriptive material concerning self-adhesive nameplates and decals, and pressure sensitive labels and tapes for shipping and receiving. Samples included. Pee Cee Tape & Label Co. (G-056)

VACUUM-FORMED BLISTER PACKAGES. 4-page folder describes "Packmaster" capable of producing 125 per minute flow (3 in. x 3 in. packages) in single or multiple units, or in a continuous ribbon. Butyrate or acetate film used to form blisters up to 6 in. x 6 in. x 1¾ in. Other models described. Sunstrand-American Broach. (G-057)

CARTON. 4-page brochure details 60 stock size cartons for mailing and packaging. Prices listed for reverse tuck, gadget mailers, security mailers, snaplock and stationary mailers in addition to a stay-flat mailer that requires neither stiffener nor seal. Calumet Carton Co. (G-058)

PNEUMATIC HEAT SEALER. Bulletin describes sealer providing pressure up to 1187 lbs., automatic dwell time up to 15 sec., and thermostatically controlled heat up to 550° F. Standard ¾ in. face crimp jaws 8" wide. Flat and special jaws also available. Pharmaceutical, military, lab uses. Wrape-Ade Machine Co., Inc. (G-059)

ENGINEERED PACKAGING. 8-page description of a system that incorporates preformed fibreboard wrap around packaging material "slotted" to provide cushioning and "bridged" to provide vertical support as shock absorption. Each application individually engineered. Vanant Co., Inc. (G-060)

EXTRUDER. Data sheet details 2½ in.-20:1 L/D extruders. Ratings described include reducer, thrust bearing, nominal melt capacity, temperature range, pressure range, screw speed, nominal ratings and recommended drives. Midland-Ross Corporation, Waldron-Hartig Div. (G-061)

SHEET PLASTICS. 16-page brochure describing complete line including sales aids, convention supplies, ribbons, loose-leaf bindings, signs, displays and packaging, plastic laminating . . . sheet plastics, acetate, rigid vinyl. Prices. Arthur Blank & Co., Inc. (G-062)

INSULATED BAGS. 16-page booklet and several bulletins describing cushioned and insulated mailing bags used on hooks, premiums, machines in automative parts, drills, valves, glassware and hundreds of other applications. Sizes, packaging specifications and weight detail. Columbian Rope Co. (G-063)

PACKAGING MACHINE. Illustrated 4-page brochure describes a new low cost polyethylene packaging machine capable of producing a package on 3 or 4 sides in one operation. Semi-automatic. Custom-tailored packaging. Sealaround Corp. (G-064)

PACKAGE TYING MACHINE. 8-page brochure details the versatility of automatic packaging machines. The booklet describes what a tying machine does, how it operates and the advantages of automatic tying. Case histories included. B. H. Bunn Co. (G-065)

HEAT SEALING EQUIPMENT. Illustrated brochure describes a hand iron with adjustable temperature control, an automatic labeler and a hotplate available as a "built in" or portable unit. Wells Mfg. Co. (G-066)

EMBOSSING LABELER. Illustrated brochure describes a hand embossing tool capable of preparing embossed labels "on the spot." Also describes plastic and some metal tapes. Dymo Corp. (G-067)

SEALERS & LABELERS. 3 bulletins describe a new labeler with synchro-flow speeds up to 180 per min.; a sealer 8' long for top and bottom flaps or top flaps only, and an automatic case opening and forming machine. Elliott Mfg. Co., Inc. (G-068)

SCALERS & FILLERS. Bulletin describes 4-in-1 all steel counter platform beam scale with full capacity weighbeam and platform locking device. Also information on air controlled liquid fillers. T. R. Mantes Co. (G-069)

ELECTRONIC TREATERS. 4-page bulletin offers information on a system of creating clear polyethylene film ready for printing. An electrode simplifies the treating of film by bombarding the surface with controlled electrons. Aetna Electronic Corp. (G-070)

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MODERN PACKAGING

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DISPLAY COMPOSITION. 24-page booklet describes 14 public demonstrations at Graphic Arts Exposition. Actual time required for setting, casting and make-up is given as well as a detailed description of how each job was produced. Ludlow Typograph Co. (G-071)

VACUUM-FORMING MACHINE. Illustrated 6-page bulletin describes 8 machines that automatically vacuum-form parts from thermoplastic sheets. Also used for skin-packaging or blister packaging. Product Packaging Engineering. (G-072)

BALL FITMENT APPLICATOR. Bulletin describes new automatic high speed machine designed to apply the fitment and rolling ball in roll-on product containers. Specifications. Resina Automatic Machinery Co., Inc. (G-073)

GASES. Profusely illustrated 24-page brochure describes the uses of argon, hydrogen, nitrous oxide, helium, nitrogen, krypton, neon, xenon and carbon dioxide in the food processing, preserving and packaging industries. Air Reduction Co., Inc. (G-074)

THERMOPLASTIC FILMS AND SHEETS. 12-page booklet details history and operations of major manufacturers. Various applications of cellulose acetate sheeting are described. Table of properties included. Joseph Davis Plastics Co. (G-075)

SYNDUCTION MOTOR. 4-page brochure describes a new motor that maintains constant synchronous speed from no load to pull out. Combines dependability of squirrel cage construction with advantages of salient pole synchronous design. Allis-Chalmers Mfg. Co. (G-076)

WEIGHING AND FEEDING MACHINE. 4-page bulletin details a semi-automatic net-weighing and feeding machine for use in the packaging of foods, drugs, toys, tablets, cookies, beads, etc. Exactron, Inc. (G-077)

BOX STAYS. First bulletin contains 14 samples of heat sealed box stays. Footage per pound and footage per coil specified. Second booklet offers 11 "Instix" box stay samples. Nashua Paper Corp. (G-078)

TABLET & CAPSULE FILLER. Illustrated bulletin offers information on an automatic, continuous motion tablet and capsule filler. 15,000 tablets per minute or 150 bottles of 100's. Lakso Co., Inc. (G-079)

ROLL LEAF MARKING. Two illustrated bulletins describe the "Peerless" process, a method of engraving designs or lettering in color onto surfaces such as paper, cloth, textiles, leather, plastics, etc. Printing speeds specified. Peerless Roll Leaf Co., Inc. (G-080)

SEALED LABELS. Two 6-page illustrated brochures describe "Metal-Cal," a label made of anodized and dyed aluminum foil. Can be applied to any smooth or stippled cohesive surface. Ever Ready Label Co. (G-081)

FORMING MACHINE. Information on forming machine for thermoplastic sheets and automatic visual package machine for high speed blister or skin packaging. Auto-Blow Corp. (G-082)

COVERED BOXES. 12-page catalog of velvet & supertex covered, metal shell stock boxes for jewelry packaging. Prices included. F. H. Noble & Co. (G-083)

ELECTRONIC COUNTERS. Over 70 pages of technical and descriptive data sheets concerning electronic counters. Also specifications on automatic counter batchers, industrial magnetic switches and photo-heads. Post Machinery Co., Electronic Prods. Div. (G-084)

CUSHIONING MATERIALS. 8-page folder details uses and applications of "Crintex," a combination of vertically oriented fibres and latex. The resultant rubberized curled fibre material is used in the packaging of electronic devices, optical instruments, missile components, navigational instruments, etc. American Latex Fibre Corp. (G-085)

WINDING STANDS. Over 20 pages of folders and data sheets offered on a complete line of engineered winding stands, automatic production cutters, slitters and rewinders and power shears. Hobbs Mfg. Co. (G-086)

TAPES. Complete product information, including specifications from manufacturer of masking, flatback, strapping, double face, printable or colored flatback, black crepe and production grade cloth tapes. Also specialty industrial tapes. Idea Tape Inc. (G-087)

AIR GAGE. 6 page bulletin describes general purpose air comparator available with three basic magnifications. Also small compact general purpose air gage in addition to several air gate recorders and actuators. B. C. Ames Co. (G-088)

TUBE FILLING AND SEALING. 4-page brochure lists data on automatic filling machines in addition to a manually operated tube sealing machine. All specifications listed. Also attachments. Chase Companies. (G-089)

CONTAINERS. 14 pages of bulletins and descriptive matter pertaining to "Tri-Wall Pak" containers made of triple-wall corrugated board. Material combines high strength with low tare. Made to customer's dimensions. Also available in wrap-around form. Tri-Wall Containers, Inc. (G-090)

CAN SORTERS & UNCASERS. 8-page illustrated catalog describes features and applications of machinery designed to sort cans, uncase, align and orient for filling various types of cans. Specifications. Atkron Inc. (G-091)

PACKAGING MACHINERY. Sheets and folders list several foreign made machines sold and serviced in the U.S.: automatic packaging machines, constant motion high speed cartoners, tubing and filling machines and web-fed rotagravure press. Geveke & Co., Inc. (G-092)

VISUAL INSPECTION DEVICE. Bulletin describes "Scan-A-Web," a device for web presses permitting a stationary visual inspection of the printed form during high speed production runs without slowdown or press stoppage, from zero on up. National Labs. & Mfg. Corp. (G-093)

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MODERN PACKAGING

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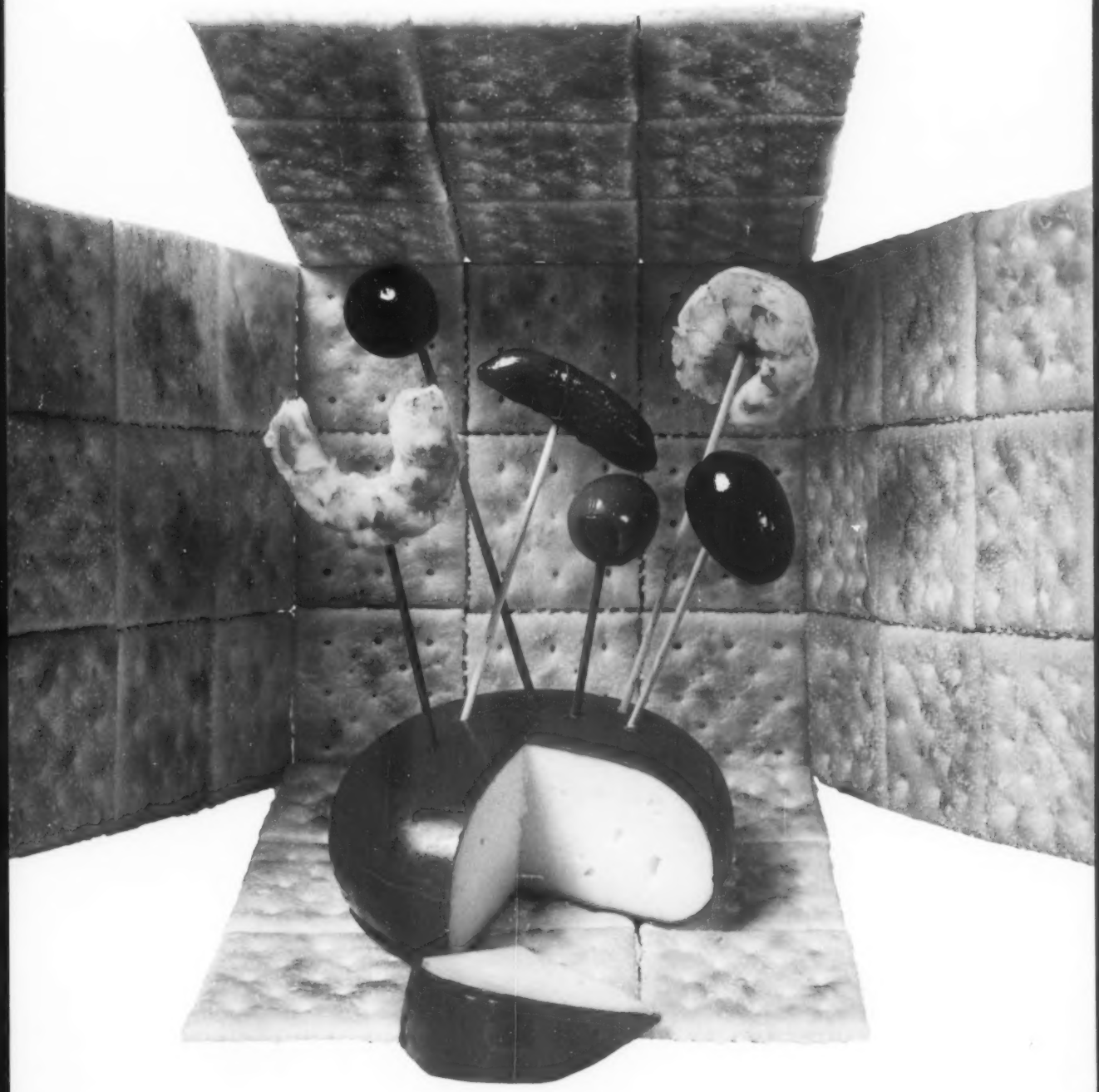
CRISP AND APPETIZING

describes the printed reproduction as well as the crackers! And suggests the superiority of full-color food illustrations on coated boxboard using Dow Latex. On the next page are good reasons why coatings with Dow Latex help sell both package and product.

LATEX COATED

DOW | LATEX COATED BOXBOARD



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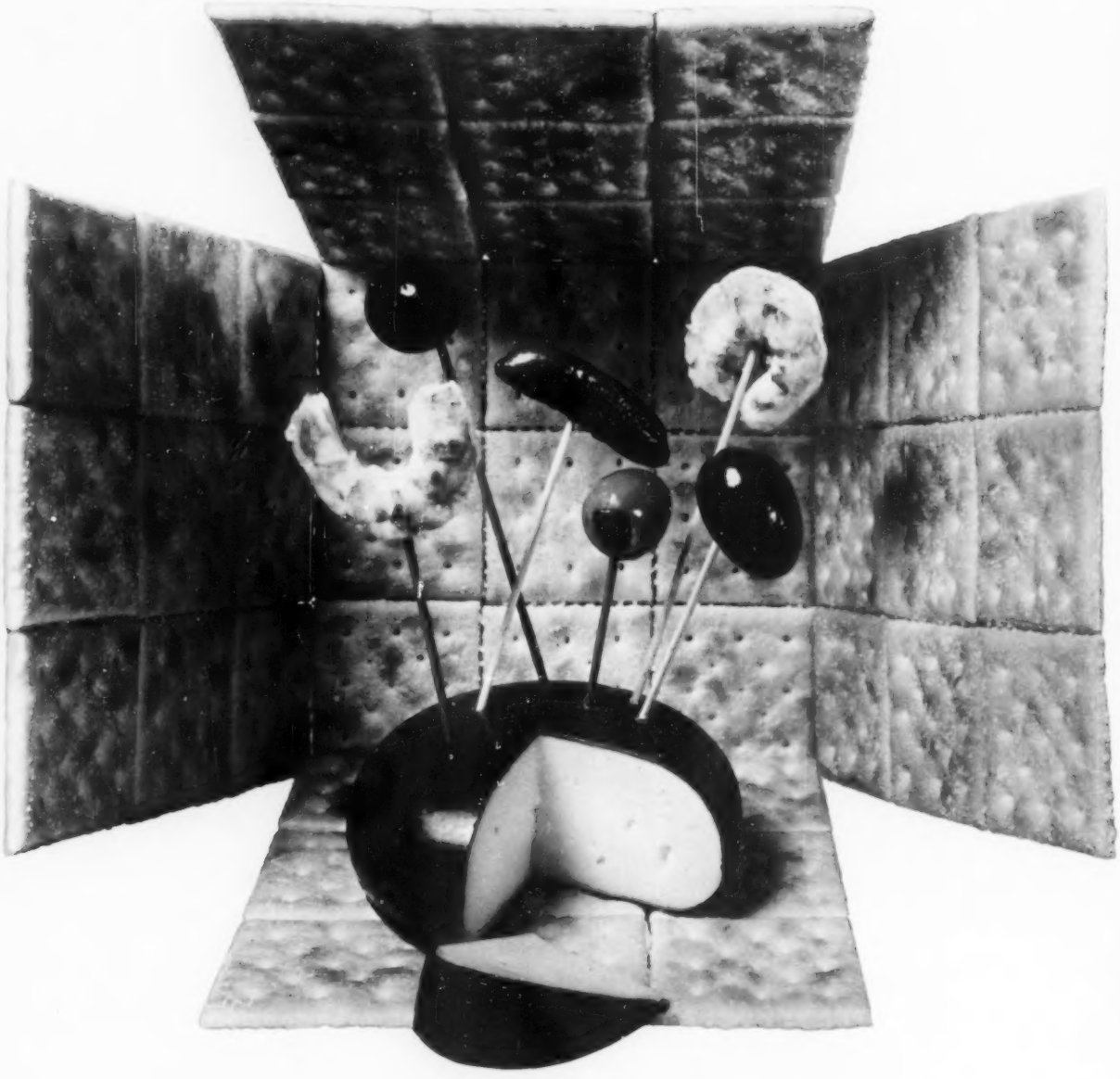

LATEX COATED BOXBOARD

brings food illustrations to life . . . to create extra sales

When it comes to reproducing food illustrations, the use of Dow Latex in the boxboard coating makes the sales-winning difference!

The front of this insert, printed on .012 pt. coated boxboard, shows how coatings with Dow Latex help you meet the demand for boxboard packages with more eye appeal, improved gloss that keeps packages fresh looking longer. Moreover, these coatings give boxboard a superior printing surface. And they make possible heavier coating weights or higher machine speeds and faster drying.

Whether you're making the boxboard package itself or buying it, you'll find coatings made with Dow Latex add an over-all look of quality that creates sales for you. It will pay you to get the full details. Write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Department 1931.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

Lithography on foil

[*Continued from page 164*]

pletely with certain types of inks.

Ordinarily, no great problems were encountered when printing foil with one- and two-color offset presses. Commercial runs of 200,000 to 300,000 sheets have also been made with 76-in. five-color presses, but fountain-solution control was more difficult. The fountain solution tended to accumulate from one station to the next. On five-color presses, particularly on a light form, it is helpful to run the ink light in the fountain and from time to time replace the partially emulsified ink.

For the ultimate in print quality, printing pressures should be properly adjusted. For adjusting plate to blanket pressures, a magnetic gauge is helpful.

Research and the future

Largely as a result of progress in making better foil inks and foil lacquers, offset printing is now on a sound basis, but there is considerable room for improvement.

A means to reduce amount of fountain solution needed on the plate would simplify water control. Perhaps the most interesting recent development is a system which delivers fountain solution to one of the form rollers. This equipment, which is claimed to reduce drastically the amount of fountain solution needed, is currently being tested on a number of printing presses.

Attempts are being made to develop more water-receptive plates consisting of metal coated with porcelain enamel and water-receptive lacquers. Some of the ink companies are investigating the possibilities of various ink formulations with the idea of building greater water resistance into the inks.

Faster ink drying would be an asset for offset foil printing. Several avenues of investigation are open. A method of setting inks rapidly by an additive, a spray powder, or other means is being sought.

The most intriguing possibility is a foil coating formulated to absorb ink and water in the same manner as paper and still maintain the brightness of foil. Such a coating would eliminate most of the remaining problems with offset printing on foil. Considerable progress has been made in developing such a water-

and-ink-receptive coating. Such a coating has been applied to foil and printed on an offset press. Halftone reproduction was excellent. No ink offset occurred when paper was laid over the inked surface under 1 lb. per square inch and no ink smear was obtained when a finger was run across the inked surface onto the unprinted areas. These tests were made immediately after printing. The press rolls and ink fountain were then cleaned and the laminate was varnished within approximately 30 min. after printing. There were no roller streaks and no bleeding of ink into the varnish.

Conclusions

With foil inks and stock properly coated for offset printing, some lithographers are now regularly printing foil commercially. With the acquisition of a little know-how, any lithographer can do high-quality offset printing on foil. Aluminum sheet (Figure 4) is regularly printed by metal-decorating methods in much the same manner and with the same degree of ease as for tinplate.

At present, more care must be exercised to obtain proper ink-water balance when printing foil by offset than when printing paper. Also more care is required with foil to prevent offsetting of ink in the delivery pile. It is, however, anticipated that research developments in fountain-solution control, inks and coatings will in the near future eliminate the need for any extra care being taken when printing foil by offset.

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Ultra-fast pouch packaging of candies

[*Continued from page 97*]

must be printed in colors for consumer appeal and, of course, the material must also be heat sealable and moistureproof.

Statistically, the two packages add up this way: the former twist wrap required a piece of film measuring 90 by 70 mm. (3.54 by 2.76 in.), but the new pouch requires a strip only 60 by 51 mm. (2.36 by 2 in.). The comparative areas are 9.76 sq. in. and 4.72 sq. in.—a reduction of 51.5%. At U. S. prices, even with the higher cost of MST film (3.2 cents per 1,000 sq. in. in comparison with 2.95 cents per 1,000 sq. in. for MT-31 non-heat-sealing cellophane), the pouch pack yields a cost saving of about 48%.

Kaiser's horizontal pouch maker, which was recently put into full commercial operation after almost nine months of tests and modifications, provides further economies, not only in increased output (20 units per minute faster than the former twist wrapper), but in reduced re-wraps. With the twist wrap, faulty packages accounted for 2 to 10 kilos (4.4 to 22 lbs.) of candy per day. With the new machine, this scrap element has been reduced to a consistent 2 to 3 kilos (4.4 to 6.6 lbs.) per day and, in the opinion of the plant engineers, will be further reduced through experience and the use of better-quality film.

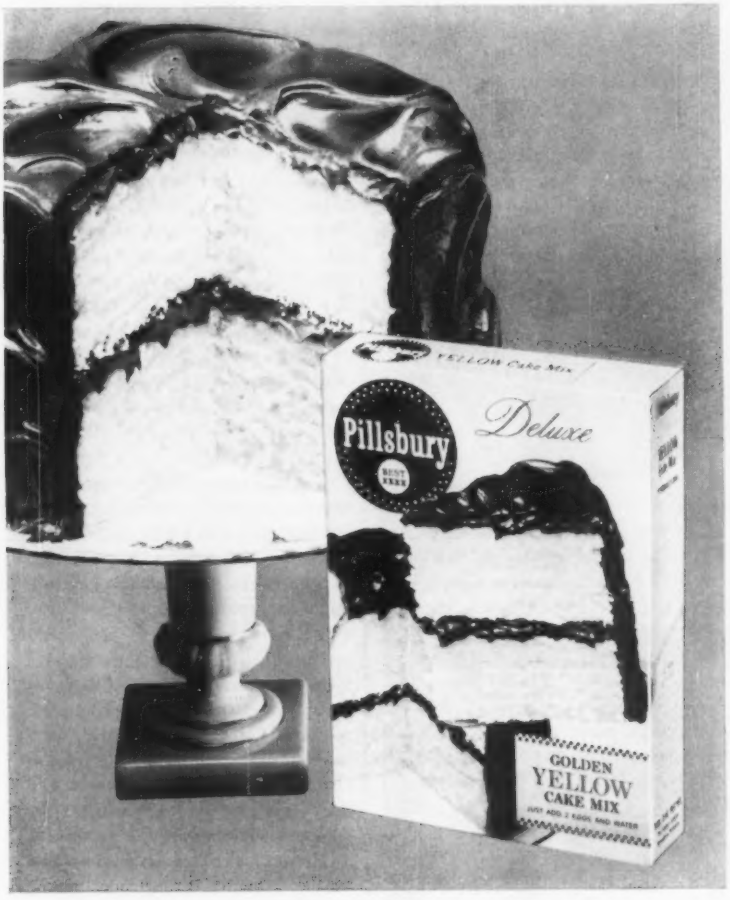
The machine handles a variety of square, oval and round candies of up to a maximum length of 33 mm. (1.3 in.) and a girth of 40 to 58 mm. (1.6 to 2.3 in.), providing the thickness is not more than half the girth. Kaiser's boiled candies are domed and measure 27 by 19 mm. (1.1 by 0.75 in.).

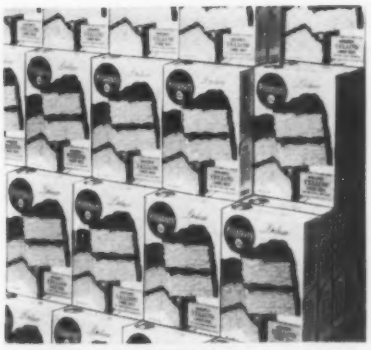
The packaging machine contains six main operational units: (1) a bulk hopper and vibratory dribble feed, (2) a rotary unscrambling and transfer disk, (3) a sprocketed straight-line chain conveyor, (4) a tube-forming plow, heat sealer and candy feed, (5) spring-loaded belts which grip the film tube and (6) two sealing rollers which apply the transverse crimp seals to the pouch packages.

The hopper and vibratory dribble

How Weyerhaeuser Cartons Help Pillsbury Maintain Leadership

Pillsbury products in Weyerhaeuser cartons please over 20 million shoppers every month!





ASSURED PERFORMANCE. Over a billion Weyerhaeuser packages have rolled out of Pillsbury plants, protecting and selling an ever-growing and appetizing variety of popular Pillsbury products.

STRICT QUALITY CONTROL. At Pillsbury's Hamilton, Ohio plant, the Paper Analyst shows laboratory sample-test results to the Chief Materials Control Chemist and Weyerhaeuser's Technical Director. Close cooperation such as this assures the finest packages.

INTERESTING NEW FOLDER. Describes the extensive tests and inspections Weyerhaeuser cartons pass as daily routine at Pillsbury. We'll be glad to send you a copy.

What does Pillsbury want—*and get*—from Weyerhaeuser? Exact reproduction of photographs . . . precise color-fidelity . . . full conformance with established high standards . . . uniformity for swift filling and closing. Satisfying customers such as Pillsbury, when the chips are down, calls for ingenuity, marketing acumen, the closest kind of cooperation, and production facilities such as Weyerhaeuser's big 5-color presses and the almost infallible electronic color inspection. These, too, can be yours when you work with Weyerhaeuser in solving your packaging problems.

In packaging **Weyerhaeuser** (Ware'-hous-er) is pronounced **Ingenuity** (In-je-nu'-i-ti)

Weyerhaeuser Company

Boxboard and
Folding Carton Division

Headquarters:
919 N. Michigan Ave., Chicago 11, Ill.

feed are of conventional pattern, but have been modified by limiting the height of the aperture at the base of the hopper throat for smooth, constant product flow.

From this device, the candies drop on to the unscrambling turntable, which is said to be remarkable for its reliability and smoothness of transfer. Here, four plows around the circumference of the rotary device sweep the candies back into circulation and away from those which have been pocketed in 72 recesses on the wheel. Two feeler rods ride on the piled-up candies and electronically control the vibratory feed, increasing or slowing down the rate to adjust the load on the turntable.

Perfection of the transfer mechanism between the turntable and the straight-line chain was one of the chief development problems. This was solved by synchronizing the rotating table with the subsequent drive and by adding to the chain a series of hooked fingers which swing up into the turntable pockets behind each candy and positively remove the candy from the turntable pockets.

The distance existing between the fingers determines the length of product that can be accepted; they can be adjusted $\pm 10\%$ without change parts. Chain feeds are obtainable, however, for items of $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ in. in length.

The roll of film is mounted above the chain track and the web is gradually plowed over a funnel to form a tube, the candies entering the tube through the funnel. A photoelectric cell, mounted above the final web-feed roller, insures accurate registration; every fifth candy on the Kaiser machine is positively brought into proper registration by this device.

The formed tube of candies next enters a short section of spring-loaded belts which apply lateral pressure to the candies in the film tube while the longitudinal heat seal is completed on the under side of the package.

The last stage is that of transverse sealing by heating elements mounted around a roller. Individual pouches are severed from the web by spring-loaded blades in this sealing roll which mate with contact surfaces on a matching roller underneath the web. ●

Gaylord seminar tackles packaging problems

The Gaylord Container Div. of Crown Zellerbach was the sponsor recently for a compact experiment in packaging research. During a two-day session in Chicago, six packaging engineers and/or purchasing agents aired their packaging problems—candidly and in detail—and discussed possible solutions. The emphasis was on shipping containers. But Gaylord personnel present were observers only. The first seminar was so successful that Gaylord expects to schedule similar sessions in other cities later this year.

Participants in the seminar were: Arthur Mitchell, purchasing agent, Armour & Co.; Charles Lincoln, packaging engineer, and Martin Kienegger, purchasing agent, Bell & Howell Co.; Robert Foster, purchasing agent, The Formfit Co.; Harvey Kaplan, purchasing agent, Northwest Cone Co., and Ray Behn, packaging engineer, Victor Gasket & Mfg. Co.

During the 16-hr. session, hundreds of grievances and suggestions were offered by the panelists. While the companies represented market different product lines, ranging from food to machinery, most of the serious problems were shared by all. Here is a consensus of the major problems and proposed solutions.

1. *Lack of a clear-cut policy for packaging responsibility within a company.* This was by far the biggest problem of all those mentioned. One solution, advocated by all panelists, is establishment of a packaging committee. But even more important is the pressing need for a top packaging arbiter who (1) knows packaging in all its ramifications, (2) is as objective as possible—owing primary allegiance to neither sales nor production, (3) has authority to make decisions.

2. *Insufficient packaging knowledge by top management.* Panelists were agreed that too many uninformed people have a finger in the packaging pie. One possibility in this area is for the packaging engineer to submit to management at regular intervals a careful, point-by-point timetable of package development and the steps involved. Non-technical packaging articles aimed at management by the business press would be helpful. So would thoughtful cost analyses by suppliers. The panelists said they would welcome all possible help from suppliers, but they want to be the ones to convey it. Package suppliers should keep hands off direct contact with top management, the panelists decreed.

3. *Confusion as to what constitutes a truly economical package.* Management and packaging people both are shortsighted in analyzing only the immediate factors of labor and materials. Often a more-expensive package will pay for itself in reduced product damage, suitability for mechanized handling, etc. Although it is not strictly his responsibility, the packaging engineer will have an easier time selling management on a more-expensive package if he will analyze these added benefits.

4. *Faulty communication among top management, packaging engineers, purchasing agents and suppliers.* A competent and effective packaging committee can do most to remedy this. Companies should establish a standard procedure for handling inter-departmental packaging information and stick to it.

5. *Omission of packaging engineers from product planning sessions.* Packaging people are usually called in at the last minute after a product is set. Or if they are included in the early sessions, are not told of changes. A solution to this, panelists decided, is knowledge of packaging complexities by management and an upgrading of the packaging engineer's status generally. This is a battle of the individual packaging engineer. His spot in the organizational chart is still nebulous.

6. *Standardization of package sizes.* This is one of the few packaging developments of recent years which has captured management's imagination. Although standardization represents one of the best cost-cutting opportunities today, an abrupt transition to fewer box sizes can be chaotic without careful planning. But a good job done on this by the packaging engineer can do much to impress management and further the packaging cause.

7. *Suppliers who are merely order takers.* The packagers want suppliers to analyze their problems and offer alternative solutions without being asked, rather than simply quoting on specifications given them. They want suppliers with a thorough grasp

of legal and shipping requirements. They want more design counsel, better cost analyses, more free warehousing of packaging materials. They would be glad to see more visits to the production line by informed supplier salesmen.

8. *Uncertain delivery dates.* Many acute problems in this area stem from the supplier's accepting more business than he can handle properly. Packaging orders will have to be much more closely geared to use schedules. There will be little margin for error in delivery dates. More candor on the part of the supplier and more effort by the packager to gauge supplier production capacity accurately will be the only cure.

9. *Not enough attention paid to materials handling by suppliers.* Suppliers could better analyze user needs for unitizing, identification, etc. Unitizing of packaging materials is most effective when it is tied in with production rates.

10. *Clarification of packaging semantics.* There is still much confusion of terms in the industry. The business press can help in standardizing and disseminating glossaries of terms and encouraging their use.

11. *Lack of trust between packager and supplier.* The packager must have complete confidence in his supplier before he can afford to divulge competitive secrets. The relationship is a very personal one. The one solution: care in selection by the packager, absolute discretion and honesty by the supplier-salesman. ●

Kress's new K

[*Continued from page 109*]

quality look which was not implied by the previous busy and old-fashioned design. Transparent hosiery envelopes reveal simplified treatments and are immediately identified with the store trademark image. The envelopes are also used to promote Kress quality at a price, with promotional copy which reads "Save. These fine stockings sell at higher prices in other brands."

When a store brand has considerable consumer acceptance, the store trademark is subordinated to the store's brand name. In the case of Glendale paper napkins, for example, the Kress mark is there, but held secondary to the brand name.

The store's "take-with" boxes and

bags carry the large "K" in the corporate colors, along with the Kress slogan, "Smart—Modern—Thrifty Stores." Variations in economical bag and carton stock do not destroy the family-store look, the company says, as the bright corporate colors establish themselves against varying backgrounds, thereby effecting important savings in packaging costs.

The entire Kress packaging program illustrates once again the effectiveness of smart, modern graphics to facelift an entire merchandising "personality." •

Polymorphous

[*Continued from page 160*]

tions, the polymorphous resins were extruded at the same conditions that had been previously established by the particular extruder to obtain the optimum properties from his standard general-purpose resins. At these conditions the polymorphous film exhibited the expected higher strength and better appearance. It should be added that these illustrated polymorphous properties, particularly of gloss and haze, can be even further improved through minor adjustment in the extrusion conditions to optimize these conditions for this particular resin.

Certain differences in film properties are immediately apparent in comparison with film prepared by the different extruders. This result is due not to variations in resin consistency, but to peculiarities in the different techniques employed by each extruder.

However, comparisons between polyethylene films prepared by the same extruder from the different resins can be made, as these were prepared under very similar conditions. The differences in film properties obtained by different extruders are mainly due to variables such as blow-up ratios, melt temperatures, extruder type and size, die design, cooling techniques and take-off conditions.

These mechanical features, which are often very carefully hidden proprietary secrets, contribute much to final film properties. These techniques coupled with polymorphous polyethylene result in even higher-grade film.

In addition to its high strength and sparkling opticals, the polymorphous polyethylene film has sat-

isfactory slip and block properties.

The film has good openability and can be treated to give satisfactory ink adhesion and sealability.

Polymorphous polyethylenes have once more expanded the range of properties possible from polyethylene. It is now possible to obtain from a single resin a wide range of packaging films which offer outstanding serviceability as well as pleasing eye appeal.

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Medium-speed

[*Continued from page 103*]

mechanically to assure that they are loaded. For this purpose, a magnet in the vertical back-up plate grips the steel product through the curtain wall, holding the package against the plate and preventing it from falling through a cut-out section in the base plate. Cartons without product have, of course, no magnetic attraction and therefore fall free of the lug conveyor.

On the reverse side of the machine, a tucking arm and an oscillating arm (equipped with three blades) close the dust flaps and the plow-broken main flap. The second operator stacks the cartons in a master shipper that holds 600 teaspoon cartons. Other tableware items soon to be packaged will be loaded 400 to a shipping carton.

Quick change-over of the machine is, according to plant officials, a further advantage that will be fully utilized when all of the tableware items in this premium line are packed on the new cartoner. Two sizes of cartons will be used for the three pieces. Equipped with fast-acting crank mechanisms for adjusting height and conveyor widths, the machine reportedly can be readied in a matter of only 10 min. for different-sized cartons. ●

Upturn in produce pre-packaging

[*Continued from page 94*]

must be kept in volume supply to maintain consumer confidence and re-sales. This is virtually impossible where the source of supply is a single, seasonal grower—another strong argument, say the supermarketers, for terminal or centralized packaging operations that can draw from many growing areas.

These advances in packaging techniques have had their effect on top-management thinking in many retail stores—particularly the chains. With packaging comes self service, which lowers labor cost and assures faster customer turnover. Now, according to the Supermarket Institute, 61% of its membership offers fully self-service produce departments. Particularly keen on such modern practices are supermarkets in New England and the Midwest, where more than 90% are completely self service.

To stock these departments, the supers are turning to central pre-packaging—11% now perform some packaging operations in such large facilities. Among supermarketers, the realization is growing, too, that in most store departments profits are stabilized by vigorous brand competition—pinpointing the produce section as one of the few remaining areas where advanced packaging and merchandising ideas can be broadly used to upgrade products and profits. This fact is expected to encourage many innovations in produce packaging and packaging machinery during the next few years. ●

Higher speed with polyethylene

[*Continued from page 115*]

and the printed film were supplied to the contract packager in roll stock. The pads were severed by means of a gullotine and hand fed to a conveyor leading to the wrapping machine.

For easy access, the parent film roll for this machine is located beneath and somewhat to the front of the sealing mechanism. The film is drawn into the machine by feed rolls; the product, by chain flights. For the 3M job, a flat-top chain was used to convey the pad before product and film moved into the inverted former.

The new machine has an inverted former because it is felt that the upside-down mechanism facilitates handling of such limp film as polyethylene and gives better control over the lap seam.

The manufacturer of the equipment concentrated on achieving a weld seal for polyethylene. Speed has been stepped up and the bond made more secure by substitution of a pair of low-voltage hot wires for the usual high-voltage resistance heaters. This calls for an elaborate combination of wiring circuits and critical heat setting which must be adjusted individually by means of four hand knobs located in a panel above the machine. There are separate controls for both warming and running each wire. While initial adjustments must be made carefully, the packager found that its around-the-clock operating schedule for the 3M job made frequent readjustments unnecessary.

Sealing wires are incorporated in the rotary cutting head in the area usually occupied by the crimpers on a cellophane wrapper. With each revolution of the knife and anvil, the hot wires seal the back seam of one package and the front seam of the succeeding one, then sever the web between seals. Finished packages are carried from the wrapper on a belt conveyor.

Registration of printed film is controlled electronically. The machine has a variable control for length of cut-off to suit the printed stock. This 3M package had a 7-in. printed area with an 8-in. cut-off. Portions of both ends are left clear. It was found that film printed on single-impression drum presses gives more accurate repeat lengths for use with the new wrapper.

Polyethylene can be run in gauges as low as 0.75 mil if unprinted; 1.5 mil is more satisfactory when printed. While the 3M job was run on polyethylene film only, similar models of the same wrapper are said to handle heat-sealable cellophane in several gauges. Change-over for cellophane takes only 30 minutes. The crimpers in the cutting head and the heat-control settings can be changed quickly. ●

Its bottle becomes Coca-Cola's trademark

The world's best-known package—the Coca-Cola bottle—is now officially listed by the U. S. Government as a registered trademark of the Coca-Cola Co. and as such is only the second container to be recorded on the Principal Register of the United States Trademark Act (1946), known as the Lanham Act. The first was the Haig & Haig pinch bottle in 1958.

As one of three trademarks of the Coca-Cola Co., the bottle joins "Coca-Cola," registered in the U. S. Patent Office in 1893, and "Coke," added in 1945. The distinctive bottle was originated by Alex Samuelson, a Terre Haute designer working under the direction of Chapman J. Root of the Root Glass Co., which first produced it. Patented in 1915 and adopted by Coca-Cola in 1916, the bottle has, through 1959, been manufactured 6,570,858,528 times in the U. S. alone.

In supporting the application for registration, H. B. Nicholson, board chairman, included with his affidavit a copy of the August, 1951, issue of MODERN PACKAGING bearing on its cover a full-color reproduction of the bottle and containing an article documenting Coca-Cola's qualifications for "Packaging's Hall of Fame" because its bottle, "a classic of design," is the world's best known package and its story "demonstrates the power of a package to safeguard quality and reputation while extending markets to the earth's far corners."

Coca-Cola applied for its registration March 19, 1959, but a strong case for package recognition under the Lanham Act had been made in 1955 by the company's attorney, Julius R. Lunsford, Jr., in an article in *The Trademark Reporter*. Pointing out that "there exists at the moment a situation in which a slogan can be registered on the Principal Register, while a package cannot," Mr. Lunsford urged that "this patent inconsistency should be resolved by the registration of distinctive packages which definitely perform the functions of trademarks." He argued that this was in keeping with elementary principles of trademark law and in harmony with Congressional intent as expressed in the 1946 law. At that time, packages were eligible only for the Supplemental Register as marks that had been in use for one year and were "capable of distinguishing goods."

Company affidavits with its application reviewed Coca-Cola's history since 1886, including the product's first appearance in straight-sided bottles in 1894. Recalling that "inspired imitators and unfair competitors" attempted to trade on the company's good will, the affidavits explained that in 1913 Harold Hirsch, then general counsel, urged development and adoption of a uniform and distinctive bottle, based on a suggestion by attorney Benjamin F. Thomas, one of the company's first two bottlers.

One requirement at that time was that the bottle be so shaped that a person could definitely recognize it as a Coca-Cola bottle "when he feels it in the dark."

Bottle manufacturers then submitted eight or 10 suggestions from which the final hand-fitting design was selected.

"With the exception of the registered word marks, 'Coca-Cola' and 'Coke,'" said one affidavit, "the Coca-Cola Co. does not value any of its assets more highly than the distinctive bottle," now registered in 102 foreign countries or territories.

Further supporting its application, the company submitted a mass of published material, particularly advertisements starting in 1916 that have promoted the bottle's shape and it's world-wide fame. ●

It's official—*U. S. has now registered this famous 44-year-old bottle design as a third Coca-Cola trademark.*

Plastic pyramid

[*Continued from page 113*]

laminated tetrahedrons have been on the market for some time†, this film "pyramid" incorporates several advanced features. A key factor in the use of transparent film laminates for tetrahedron packaging is the special back-to-back longitudinal seal, whereby the single coated side of the film is sealed to itself—permitting economical use of one-side-coated films and greatly broadening the choice of film types. When the back-to-back longitudinal fin seal on this tetrahedron passes from one triangular surface of the package to another, the contour of the package causes the fin to lie flat and looks like an overlap seal. Also, with the back-to-back seal there are no cut edges of the material exposed to the product to cause wicking.

Both single- and multiple-sale techniques are employed. Marketed loose in acetate-sheet dump displays, the containers sell for 10 cents apiece. An acetate blister package, containing six of the small tetrahedrons, sells for 59 cents and permits the product to be handled on hang-card displays. The blister package is formed with six peaked compartments that snugly hold the individual film packs in place. A tear strip on the back of the card facilitates opening the package.

Positioned printing permits quick identification of the triangular portion to be removed for opening and ready reference as to which side of the package is the bottom. Removal of the triangular opening portion is facilitated by starting perforations in the end seal. Future packages will incorporate perforations of the cellophane in registration with the print design prior to polyethylene extrusion, which it is hoped will further increase the strength and leakproof properties of the package.

The new two-channel, one-operator automatic machine which produces the tetrahedral pouch at 180 units per minute is said to be as efficient as the package it produces and can handle liquids, powders and possibly more solid items. This flexibility is made possible by a special intermittent film and product feed.

The film for each machine head is drawn from separate rolls of mate-

†See "Sterile Milk in Paper," Modern Packaging, Jan., 1960, p. 82.

rial over a conventional inverted plow former, which converts the flat film into a closed tube. Product filling takes place through the central forming tube. When the package is approximately 90% full, a valve at the end of the tube-like mandrel shuts off the product. Air pressure, nitrogen or carbon dioxide gas is then introduced to inflate the package and distend the side walls for the final end seal, which is applied at a 90-deg. angle to the fold lines of the first end seal. This technique assures a head space to permit opening of the package without spilling and enables the final heat seal to be made dry, rather than through the product, as on some other tetrahedrons.

Air-driven cutter blades, which cleanly separate the pouches, are mounted in the center of the sealing heads to conserve space and minimize the number of mechanical elements. An automatic stripper prevents tetrahedrons from sticking to the hot sealers. Other features include thermistor-activated heat controls, electric-eye compensation built into the transverse heat sealers for accurate registration and an electronic control with trouble light that shuts off the machine and indicates low weights, end of film web or weak heat seals. Modification of this machine for larger tetrahedron packages is said to be possible. ●

Sounding Board

[*Continued from page 72*]

year we are changing one line of Christmas cards from 4 by 6 in. to 3⅞ by 6 in. and placing the design the opposite way on the card.

Another type of change that results in a different box is when we adopt a more or less expensive type of paper; then, rather than change the price of the box of cards we prefer to change the number of cards per box.

There is no discernible trend in size and shape of our boxes; rather it is more of a cyclical variation.

Joseph Parker, *Purchasing Agent, Sterling Quality Products, Inc., Malden, Mass.:* We experience both upward and downward trends. We are always adding to our line, both productwise and package size. As we add to our line, it takes a while to educate everyone that this new package is available and to point

out its advantages. We have to carry both the new styles and the old standbys. Eventually the sales of the old will drop and we can discontinue the uneconomical ones. We are always looking for new and better packages for our products.

Martin Weiner, *Plant Manager, Revere Knitting Mills, Inc., Wakefield, Mass.:* If I understand your question correctly, you are referring to the minimum of units placed in any one package. This situation has not changed with us for many years. We package one garment to the box and on occasion a maximum of two garments to a box. Since we manufacture men's sweaters and sportswear, it has been pretty well established in the industry that this type of item should be packaged individually. Our customers, retail-store buyers, prefer having this merchandise packaged mainly one to a box so that they can better control their inventory situation.

Clarence Thulin, *Manager of Industrial Engineering, Standard-Thomson Corp., Waltham, Mass.:* Our average size may show a slight trend upward. However, the variety of shapes we have to deal with is increasing. This results from the complexity of our products, which are used in aircraft, missiles and similar specialized devices. Our product must fit into available spaces in such equipment and this is often an odd shape, which we must design to fit.

R. J. Carey, *Technical Manager, Compo Shoe Machinery Corp., Waltham, Mass.:* Our standard packages for industrial coatings and adhesives have remained unchanged for the past 30 years except for internal improvements such as special linings. These package sizes (5 to 55 gals.) are much too large for retail consumers. Any move on our part into the retail field will force us into package sizes ranging from 1 gal. to 4 oz.

William H. Coulson, Jr., *Vice President, Morehouse Foods, Inc., Los Angeles:* Product quantities on our packages are tending upward. Better economy can be offered to the consumer with larger packages. With the increase in size of families, the market for the larger sizes is steadily on the up side. ●

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Used or Resale Equipment

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MODERN PACKAGING AND FOOD PROCESSING MACHINERY—Package Machinery Model FA, FF, FFH, FA2, FA3 and FA4 Wrappers with and without Electric Eyes, also Models F and CM2. Hudson Sharp Campbell Models 2W6, 2W8 and 2W10 Wrappers. Hayssen Wrappers, all sizes, for cellophane and polyethylene. Package Machinery Palmer Carton Gluers and Traylocks TLA and TLB. Wrap King Model DW-4 with Electric Eye and Marker. Pneumatic Scale Automatic Carton Feeder, Bottom Sealers, Wax Liners and Top Sealing Units with interconnecting conveyors. Pneumatic Scale Tite Wrap Machine and Liners. Transwrap Machine, Model B with 4 scale Net Weigher, Model A Auger, Triangle Model L-1 with Scales. Ceco Models 40 and A3901-12 Cartoning Machines. Packaging Machinery Models F10 and F10-J Bundlers. Standard Knapp, Ferguson, A-B-C Case Sealers, Fillers, Labelers, Cappers, Mixers, Grinders. Union Standard Equipment Company, 318 Lafayette Street. New York 12, N. Y. Phone: CAnal 6-5334.

MARTINI SHIRT BAG MACHINES—Makes Cello and Poly with paper back bags. Priced for quick sale. Mason Envelope Co., 1180 Commerce Ave., N.Y. 61.

PALLET LOADER FOR SALE—Like new, complete Alvey "100" Pallet Loader, 45 x 36 inch pallet. Reasonably priced. Immediate possession. Address Box No. 1259, Modern Packaging, 575 Madison Ave., New York 22, N.Y.

LYNCH ROBO-WRAP MODEL 101-C Automatic Packaging Machine. Has 5/16" perforating punch device, special center seam sealers for polyethylene & electric eye. Conveyor equipped with carrying containers and indexing drive synchronized with the Robo-Wrap. Excellent condition. Sterling Plastics Co., 1140 Commerce Ave., Union, N.J.

WILL TRADE LATE MODEL Chisholm Ryder Nu-Way auto. labeler on late model top and bottom case sealer. P. O. Box 3566, East Atlanta Sta., Atlanta, Georgia.

Machinery Wanted

TABER THERMOBEADERS, either single or duplex. Must be in good working order, with or without Beading Dies. Reply Box 1265, Modern Packaging.

WANTED—Acetate Clear Transparent in Rolls .002, .003, .004, and .005, any size, any quantity. Reply Box 1266, Modern Packaging.

WANTED—AUTOMATIC TUBE FILLING and closing machine. Must be in good condition. Wm. K. Walthers, Inc., 1245 N. Water St., Milwaukee 2, Wisconsin.

Materials For Sale

FOR SALE—Hot-Pickup Can Labeling Adhesive. We have on hand, 4,000 pounds of National Starch Products' high grade hot-pickup material. This is a lump form material which can be heated and run at a temperature range of 260 to 320° for cans having a temperature of 55-150°. We have no further use for this material ourselves and would sell at an extremely low price to any interested company. Reply Box 1260, Modern Packaging.

Help Wanted

PACKAGING SUPERINTENDENT—A national drug manufacturer is seeking an experienced supervisor for its St. Louis operations with a broad background in all phases of finishing and packaging of proprietary drugs. Degree required; to age 35. Excellent growth opportunity. Salary commensurate with experience. Profit sharing, medical, surgical and hospital insurance. Write to Box 1261, Modern Packaging.

MANUFACTURER'S AGENTS WANTED—Expanding plastics company with a broad combination of diversified plastic manufacturing processes and creative and development know-how, need qualified representatives in all territories. Prefer men acquainted with heat-sealing, injection molding, foaming, thermo-forming and plastic fabrication to sell direct to non-plastic manufacturers who seek custom-made packages or component plastic parts for their products. Please reply with detailed resume to Box 1262, Modern Packaging.

PACKAGING PERSONNEL
Positions filled and secured. A confidential Nationwide Service for employers seeking personnel and individuals seeking new positions. Inquiries invited. Reply to Graphic Arts Employment Service, Inc. Est. 1952. Helen M. Winters, Manager: Dept. PAC-7, 307 East 4th Street, Cincinnati 2, Ohio. Phone CHerry 1-2201.

SALES CORRESPONDENT—Leading company has an opening for a man with experience in flexible packaging. Submit resume and salary requirements to Personnel Department, Oneida Paper Products, Inc., Clifton, New Jersey.

SALES REPRESENTATIVES WANTED throughout United States by leading manufacturer and producer of molded plastic packaging. We have several choice markets that are open. Must have extensive packaging and sales experience, well acquainted with volume packaging following. Must have strong creative ability and knowledge of plastic molding. Reply Box 1263, Modern Packaging.

PACKAGING ENGINEER—Expanding activity in the flour milling operation of The Pillsbury Company has created an opportunity for a packaging engineer to carry out a broad packaging program. This will include equipment selection and installation, optimum utilization of equipment, manpower and materials. Applicants should have degree in Mechanical Engineering, with industrial experience in packaging, knowledge of materials and equipment related to packaging. Send detailed resume with salary expectation to: Calbert Butler, The Pillsbury Company, Minneapolis 2, Minnesota.

WANTED—SALES DISTRIBUTORS or Representatives to handle the sale of Teflon coated glass fabric to the packaging industry. Our fabric insures long life, absolute smoothness and high impact strength. Prefer someone presently handling film conveyer and heat sealing machinery lines. Many areas open. Warren Wire Company, Pownal, Vermont.

MANUFACTURER'S REPRESENTATIVES wanted for prime producer of printed and plain extrusion-coated polyethylene on Mylar, Cellophane, Foil and Paper. To call upon Food, Chemical and Industrial accounts. Liberal commission structure for men with experience in this type of packaging material. Reply Box 1267, Modern Packaging.

Situations Wanted

SALES REPRESENTATION AVAILABLE—Quality-line salesman calling on cosmetic, pharmaceutical, chemical and related industries in Metropolitan New York City, New Jersey area is interested in adding one or two non-competing, related items. If you have a product that fits this market and are interested in representation by a young, ambitious salesman with 10 years experience in sales and packaging, contact Box 1264, Modern Packaging.

Miscellaneous

"TEFLON"* applicators will do custom coating and recoating of packaging machinery components. Eight years experience in application of non-sticking, heat-resistant "TEFLON" tetrafluoroethylene resin finishes to sealing bars, folding equipment, etc. For information write to: Fluorocarbon Division, Ornamental Plastics, Inc., 19th St. & Oakland Ave., Sheboygan, Wisconsin.

RATES FOR CLASSIFIED ADVERTISING

ALL CLASSIFIED ADVERTISEMENTS PAYABLE IN ADVANCE OF PUBLICATION

Closing date: 27th of second preceding month, e.g., July 26th for September issue.

Per inch (or fraction) ..... $30.00. Each 3 inches or fraction (boxed) $15.00 extra.

Situation Wanted ads ..... 1/3 of above rates.

For purpose of establishing rate, figure approximately 50.55 words per inch.

Address all communications to Classified Advertising Department, Modern Packaging, 575 Madison Avenue, N. Y. 22, N. Y.

Modern Packaging reserves the right to accept, reject or censor classified copy.

Index to Advertisers

July 1960

Distribution of this issue: 32,800

MODERN PACKAGING

A BREskin Publication

Published by Modern Packaging Corp., 575 Madison Avenue, New York 22, N.Y.

Escon® POLYPROPYLENE

solves the case of the missing slice!

Here's another interesting use of versatile Escon! As sparkling clear film for bread wrap, Escon exhibits exceptional non-relaxing properties and retains its texture and shape. It doesn't become limp and saggy after repeated customer handling, or give an impression that one or more slices are missing as can be the case with other thermoplastic films. Escon can match or exceed the high speed output of any film on machines designed for polyolefins. In addition, it can simultaneously be heat sealed in multiple folds. Other properties of film made of Escon include superior moisture barrier that contributes to longer shelf life; controllable shrinkage; color printing and high surface gloss for extra eye-and-buy appeal. Escon can help produce better packaging film as well as benefit other plastic processors in many ways. Investigate Escon polypropylene today! Contact the nearest Enjay office.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

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A DIVISION OF HUMBLE OIL & REFINING COMPANY

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Akron	*Boston*	*Charlotte*
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Los Angeles	*New Orleans*	*Tulsa*
Toronto		

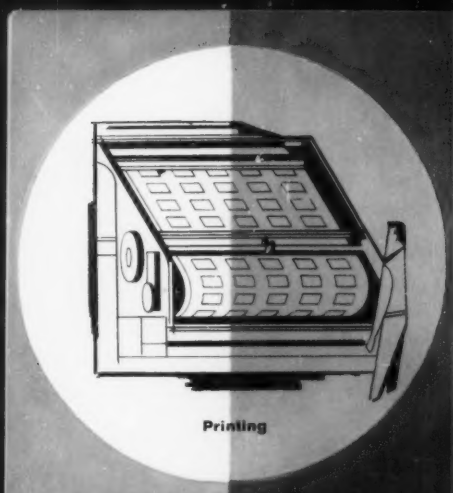
ENJAY
PLASTICS

America reaches for Michigan Cartons

Eager hands reach for famous name packages not only because the product is known for quality but also because the clean, crisp appearance of the package itself invites the customer to buy. Kimberly-Clark places confidence in Michigan Carton to produce multi-color packages of outstanding quality and performance. MCC provides many of the best known names in industry with a complete and responsible service, including the manufacture of high quality paperboard.

MICHIGAN CARTON COMPANY

Battle Creek, Michigan



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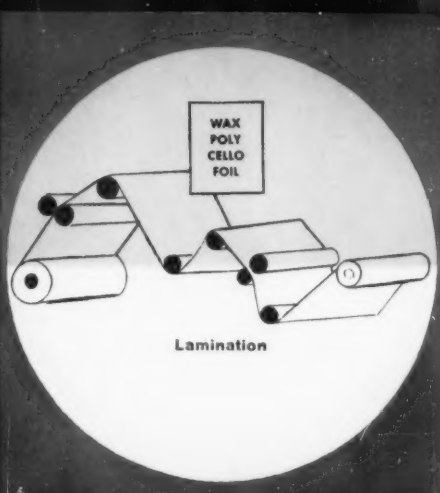
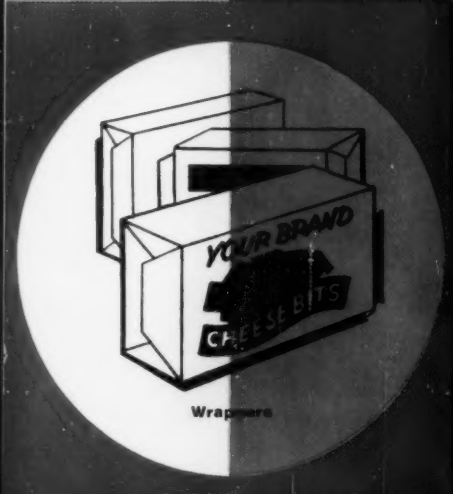


Lamination

Converting



Wrappers

FLEXIBLE PACKAGING DIVISION

CONTINENTAL [illegible] COMPANY

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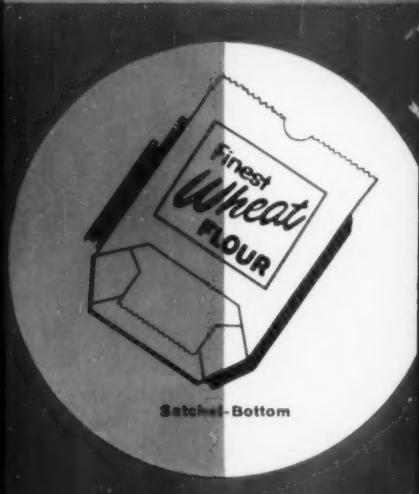
DEVON, PENNSYLVANIA

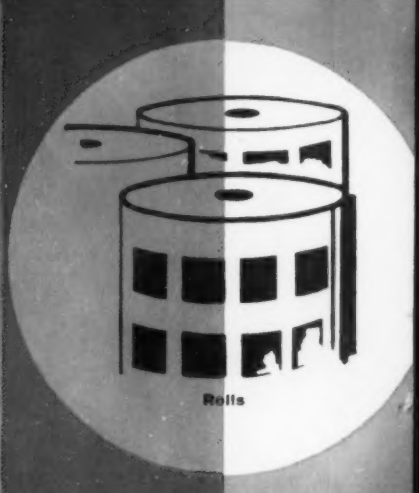
SOUTH GATE, CALIFORNIA



Satchel-Bottom

Flat Bag

Window



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PAPER CONVERTED/ MAKES THE RIGHT PACKAGE FOR YOU!

Here's paper packaging as *new, exciting* and *fresh* as the many jobs it does so well—using 13 types of tailored paper... printed, converted, or laminated to keep your product outstanding!

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